

‘What the Monkey ate before, and what he is eating now’

– A small-scale case study of local climate change adaptation in rural Nepal

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Cover picture: View at the valley as seen from the settlement of the Dgursingh Hoop Forest User Group (Photo: Gerrit Jan Hofert)

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Keywords: Community-based adaptation, Local adaptation plans of action, Climate change adaptation, Climate vulnerability, Participation

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For Björn,

أخي الصغير

Abstract

Community-based adaptation (CBA), a decentralized bottom-up climate planning approach, has become increasingly important in the corresponding literature and in practice. CBA is a significant part of the debate of how to create and provide sustainable and adaptive solutions to the negative effects of climate change. Local Adaptation Plans of Action (LAPA) in Nepal is the first national legislation implementing CBA on a broader scale. By giving communities an opportunity to participate in local climate planning processes, LAPA aims to better incorporate site-specific climate-, geographical, and socio-economic realities into the development of responses to climate risk and climate change. LAPA therefore intends to recognise local people as active agents to foster their resilience and adaptive capacity. This study examines the benefits and limitations of LAPA to gain new insights for future CBA-based climate adaptive projects. Focus was given on how participatory LAPA is in practice and whether implemented projects help to reduce a community's climate vulnerability. Data collection occurred in four districts of Nepal (Kathmandu District, Ramechhap, Dang and Chitwan) and generated 24 interviews using qualitative research methods. The findings reveal that much LAPA-planning does not incorporate all stakeholders as specifically local participation is limited to labour only. Hence, crucial site-specific socio-economic realities are missing in the planning and implementation process. The study shows that realizing the objectives of CBA in the case of LAPA is not likely to be a straightforward effect of participatory policies, but requires deeper institutional changes to bring about more substantive local participation. At the same time, attention to the wide range of challenges that households face, both climatic and non-climatic, is needed to address the conditions that make households vulnerable in the first place. Initiatives based on LAPA aiming to address these factors are already being implemented in Nepal.

Keywords: Community-based adaptation, Local adaptation plans of action, Climate change adaptation, Climate vulnerability, Participation

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Abbreviations

ASHA	Adaptation for Smallholders in Hilly Areas
CARE	Cooperative for Assistance and Relief Everywhere
CBA	Community-Based Adaptation
CBNRM	Community-Based Natural Resource Management
CFUG	Community Forest User Group
CRDP	Climate Resilient Development Plan
DCC	District Coordination Committee
DDC	District Development Committee
DFID	Department for International Development
FECOFUN	Federation of Community Forestry Users Nepal
FUG	Forest User Group
HBP	Hariyo Ban Program
IPCC	International Panel on Climate Change
ISWMP	Integrated Sub-Watershed Management Plan
LAPA	Local Adaptation Plan for Action
LDC	Least Developed Countries
LDCF	Least Developed Countries Fund
LGOA	Local Government Operation Act
LSGA	Local Self-Governance Act
MoFALD	Ministry of Federal Affairs and Local Development
MoFE	Ministry of Forests and Environment
MoFSC	Ministry of Forests, Soil and Conservation
MoPe	Ministry of People and Environment
MoSTE	Ministry of Science, Technology and Environment
MSFP	Multi Stakeholder Forestry Programme
NAPA	National Adaptation Programme of Action
NAP	National Adaptation Plan
NCCSP	Nepal Climate Change Programme
NGO	Non-Governmental Organisation
SIAS	Southasia Institute for Advanced Studies
UNDP	United Nations Development Program
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
VDC	Village Development Committee
WWF	World Wildlife Foundation

1 Introduction

One of the reasons why the *Homo Sapiens Sapiens* managed to settle in almost every environment on planet earth is its ability to adapt. Adaptation to different environments is, therefore, a natural, evolutionary process. However, how can a species adapt to changes it caused itself but are almost out of its control? Adaptation to the anthropogenic climate change has become the major challenge of the humankind in the 21st century (Salzmann N. , Huggel, Nussbaumer, & Ziervogel, 2017).

In the process of identifying a suitable implementation unit for adaptation activities, stakeholders realized that imposed top-down interventions are likely to cause maladaptation and even increase climate vulnerability (Barnett & O'Neill, 2010; Beard & Dasgupta, 2006). The main reason recognized is, that such interventions are likely to not consider local realities, as well as local needs and priorities adequately. In contrast, community-based adaptation (CBA), as a bottom-up approach, is increasingly recognized as being able to acknowledge these local singularities, as it is based on the community's priorities, needs, knowledge, and capacities (Forsyth, 2013, p. 439; Reid et al., 2009, p. 13). CBA is the result of the scholarly observation that the role of local and other non-governmental actors in the policy process of climate change adaptation and mitigation was and still is downplayed by national and international actors. Moreover, CBA highlights the fact that not every issue can be coordinated at higher scales but need local input especially. However, CBA is perceived as crucial for achieving sustainable adaptation results, as it is also supporting local democracy (Agarwal & Ostrom, 2001, Kronik & Verner, 2010). Existing scholarly literature furthermore suggests that the main restrictions for CBA approaches are its highly localised, stand-alone and geographically purview. Yet, it is furthermore the quality of governance¹ that is pointed out as the biggest challenge for CBA in general and LAPA in particular (Tiwari, Rayamajhi, Pokharel, & Balla, 2014; UNDP, 2017; Chaudhury, et al., 2014, p. 51; Schipper, Ayers, Reid, Huq, & Rahman, 2014; Nagoda S. , 2015). These claims are to be weakened by a stable and consistent policy terrain and functioning participatory elements.

¹ Indicators for good governance in favor of democratic structures are – according to the renowned Failed-State Index - summarized in four categories: Cohesion, Economic, Political and Social. Each of these categories has three subcategories. The Index is based on The Fund for Peace's proprietary Conflict Assessment System Tol (CAST) analytical approach. Based on comprehensive social science methodology, three primary streams of data – quantitative, qualitative and expert validation – are triangulated and subjected to critical review to obtain final scores for the FSI (FFP, 2017).

The Government of Nepal designed the very first national legislation to incorporate CBA in national-to-local development projects. Local Adaptation Plans of Action's (LAPA) are formally based on affected communities' needs and priorities and implemented by the same. It additionally aims to address the most marginalized and vulnerable people of affected communities, i.e. women, and other socially marginalized individuals (GoN, 2011, pp. 1-2). However, insights are missing on how participative LAPA is on the ground, and how the implemented projects reflect and decrease climate vulnerability.

1.1 Research Problem

As climate change is identified as a multi-layered, cross-cutting, and global phenomenon, an interdisciplinary approach is needed to effectively address its effects (Nightingale A. , 2016; Tiwari, Rayamajhi, Pokharel, & Balla, 2014, p. 34). Numerous scholars have increasingly argued, that climate change adaptation planning is more effectively addressed by the cooperation of different stakeholders such as multi- and bilateral organizations, non- and governmental organizations and the ones affected the most: local people (Mimura, et al., 2014). Community-based interventions (bottom-up approaches) have the reputation to improve sustainable natural resource management, by recognizing the local people as active agents in the elaboration process of climate adaptive processes. Related literature also suggests that community-based interventions tend to support local democracy by putting local perspectives, needs, and priorities as its basis and by encouraging local leadership (see Ribot, 2002, 2013). Beard and Dasgupta (2006) observe a global trend towards a focus on bottom-up/community-based interventions. A bottom-up approach is part of so-called "[...] *taylor-made solutions* [...], *guided by national responsibility and global solidarity*" (Salzmann N. , Huggel, Nussbaumer, & Ziervogel, 2017) to support countries affected the worst by climate change to adapt to it. Consequently, adaptation processes are mostly initiated and financed by developed countries. That is because developing and least developed countries prioritize development activities targeting poverty reduction and economic growth over climate change adaptation (Mertz, Halsnæs, Olesen, & Rasmussen, 2009, p. 744).

The elaboration of LAPA in 2011 in contrast to the prior enacted National Adaptation Programme for Action (NAPA - 2010) is widely acknowledged as a crucial shift in understanding the relevance and supporting the incorporation of local realities in climate change adaption processes. LAPA is designed as an "institutionalized bottom-up approach" (Ojha, et al., 2015, p. 7) and based on local participation and inclusion. That means, that the involvement of affected communities and responsible local governments is set not only in the LAPA framework itself but moreover

demanding by Nepal's new constitution. It has been praised in the related literature and praxis as a promising tool for mainstreaming or up-scaling climate change adaptation into already existing development projects (GoN, 2011). Thus, LAPA strives to bridge the gap between bottom-up and top-down approaches. The case of Nepal is therefore conspicuous: As the first national legislation incorporating CBA LAPA solidifies the nation's position as one of the leading countries in implementing community-based approaches (Pokharel, 2012). The second reason is Nepal's recent political transformation from a unitary to a federal political system (2017) and therefore the formal consolidation of local democratic structures and processes. Combined, these two factors provide solid prerequisites for the successful implementation of CBA approaches by institutionalizing local participation.

However, it is also argued in the corresponding literature on CBA and LAPA, that community-based approaches tend to face similar challenges and potentials within their process of planning and implementation (Ribot et al., 2008; Chaudhury et al., 2014; Schipper et al., 2014): High dependency on bilateral and multilateral aid together with significant involvement of national and international NGOs creates a scenario, in which CBA, and consequently LAPA as well, are perceived as top-down and donor-driven as 'regular' development aid. Therefore, the acclaimed focus on local participation as LAPA's basis is at risk of not being incorporated, which consequently means that its bottom-up concept is at stake as the decision-power seems to be executed by external actors. But how participative do community-based programs need to be to count as 'effective' (Ribot, 2013)? And how participative can LAPA be in a transforming political environment? There seems to be a gap between local democratic decisions, diverse local interests and national policies. Although the inclusion of people is desired, effective participation in climate change adaptation in Nepal is at stake because LAPA's participatory tools are not fully applied by involved stakeholders. An analysis of the de facto role of participation within the planning and adaptation process of LAPA in Nepal is strongly needed. Moreover, evidence has shown that the desired outcome of reduced climate vulnerability is not always given because people's desires are not in line with project definitions of reducing climate vulnerability but focus rather on general livelihood improvements.

1.2 Purpose of the study

This study aims to investigate the challenges and potentials of CBA-projects using the example of LAPA in Nepal. The focus is set on local participation as meaningful participation forms the heart of any CBA-approach. This was done by exploring how LAPA is implemented, formally and practically. In addition, the study at hand

explores how communities practically engage in the LAPA preparation process and finally, what type of projects resulted out of it. In that way, this study aims to extract learnings for future climate change adaptation activities in general and with concerning LAPA in particular.

Three large-scale programs active in adaptation to climate change have been selected and analyzed for this thesis: The Multi-Stakeholder Forestry Programme (MSFP), the Nepal Climate Change Support Programme (NCCSP), and the Hariyo Ban Programme (HBP). As the study developed, a second government-led approach called ASHA (Adaption for Smallholders in Hilly Areas) was considered. This variety of governmental and non-governmental actors aimed to provide different perspectives on how participatory tools are used and how local communities are engaged. The defined range of perspectives is of relevance to this study, as LAPA is often confronted with the claim of being implemented inconsistently because different actors use different methods and tools to assess a community's climate vulnerability. These inconsistencies lead to unequal incorporation of the people's needs and priorities which results in an unequal implementation of LAPA in Nepal; but may also distort the very outcome of a LAPA project.

1.2.1 Research questions

Three main research questions formed the heart of this thesis. They are designed to complement each other. In that way, I aimed to fulfil the defined purpose of the study. The research questions are the following:

1. How is LAPA implemented across different political levels: federal, provincial, and local?
2. How do citizens engage in the planning process – if at all?
3. What kind of projects are implemented, what effects do they have, and who benefits from them?

These guiding questions were accompanied by several sub-questions. In addition to the first question, it is additionally of interest to find out who is involved at what stage of the LAPA preparation process, how they cooperate, and how the flow of technical and financial flow is institutionalized. That connects to the following questions of how structurally stable LAPA and its framework can be/or is for the sustainable realization of climate change adaptation activities. The second research question was supported by sub-questions on local people's knowledge of LAPA and how that is or is not involved in the preparation process. Furthermore, and based on the results (section five), it is questionable how 'local' LAPA in Nepal de facto is. Based on the claim formulated in the literature, that CBA-projects on climate change

tend to lack a climate-resilient angle, I want to investigate what kind of projects were in fact implemented two answer question three. Another aspect of that question is if the practical implementation does count as being responsive to local needs and priorities. This was done by exploring how four different governmental and non-governmental organizations plan and implement LAPA. The findings of this study suggest that this very scenario causes the inconsistent implementation of LAPA.

1.3 Outline of the thesis

The thesis at hand is divided into seven sections. The outline will be the following: the subsequent second chapter provides an overview of climate and its impacts. It will be narrowed down to its effects in the Himalayan Mountain Range and the Nepalese context. The third chapter then presents the conceptual framework used to extract usable data out of my empirics. First, the term vulnerability will be defined and contextualized. In the same line, the term adaptation will be elaborated. CBA will be presented in the context of climate change adaptation as the underlying concept of LAPA. Section four presents the methodology utilized. Here, the methods used, the data collection process, and the analysis process itself are described. The section completes with a description and justification of the sites selected. Section five presents the empirical findings of the three sites visited. The following sixth section analytically discusses the coherence of chapter five. In that way, the section will reveal interconnections between the findings and the conceptual framework described in chapter three. Section seven, the final chapter, summarizes the significant findings of this study and provides suggestions concerning further research on this topic. Moreover, the learnings of this study will be highlighted in relation to the existing knowledge of CBA and LAPA implementation.

2 Background

This second part of the thesis provides the contextual background of climate change in the Nepalese context. This section first addresses the impacts of climate change on the Himalayan Mountain Range to then take a look at rural livelihoods in the context of climate change. That will point out Nepal's precarious position and the country's need for innovative adaptation projects. In that regard, NAPA and LAPA will be highlighted in the Nepalese context. The section ends by highlighting the country's pioneering position in developing and implementing community-based initiatives like Community-Forestry.

2.1 Climate Change in Nepal

Nepal lies right in the middle of the Hindu Kush Himalaya – one of the world's ecologically most diverse mountain biomes with exceptional variations of vegetation and landscapes (Vaidya, Shrestha, & Nasab, 2019, p. 391). Nepal's physiography is segmented into five landscapes north-to-south: The High Himalayas (> 5000m) consist of the massive Great Himalayan Range. The High Mountains (3000m to 5000m), the Middle Mountains (1500m to 3000m), the Siwalik Hills (900m to 1200m) and the Terai (< 900m). The diverse elevation causes diverse climate conditions. The Terai and Siwalik Hills have tropical to subtropical climates. Temperatures generally decrease the higher the altitude; however, higher temperatures can be measured in the valley than on the ridges (*ibid.*). The High Mountain and High Himalaya climates are cold and snowy (NCVST, 2009, p. 46). It is the Terai-Region that is ecologically most diverse, as it is composed of savannahs, dense forest, and jungle and thus provides different niches for flora and fauna (Vaidya, Shrestha, & Nasab, 2019, p. 391).

In geographical terms is the Hindu Kush Himalaya a young mountain range. That makes it fragile and thus one of the most hazard-prone areas on the planet. Its steep terrain, high seismicity, fragile geological formation, and intense and highly variable precipitation makes it especially vulnerable to floods, landslides, avalanches, and earthquakes, a situation only to be worsened by climate change. That scenario puts Nepal especially at risk (Vaidya, Shrestha, & Nasab, 2019, p. 391; Bhushal, 2019; Smadja, et al., 2015). However, countries in the Himalayan range are, by far,

not among the main contributors to GHG emissions (NCVST, 2009, p. 3). In global comparison, Nepal contributed 0.09% of the global GHG emission in 2014 (USAID, 2019). Nevertheless, NCVST elaborated that a potential increase in temperature in Nepal between 0.5°C-2.0°C, worst case up to 4.7°C (NCVST, 2009, p. 46) is likely. That would have severe consequences for almost two billion people downstream the rivers originating in the Himalayans (Xu, et al., 2019, p. 130). As Nepal is a multi-cultural, multi-lingual and multi-ethnic country with pre-existing discriminating social structures and norms like the caste system, climate change and its effects have a more profound impact on groups and individuals marginalized by these structures (Section 2.2.2).

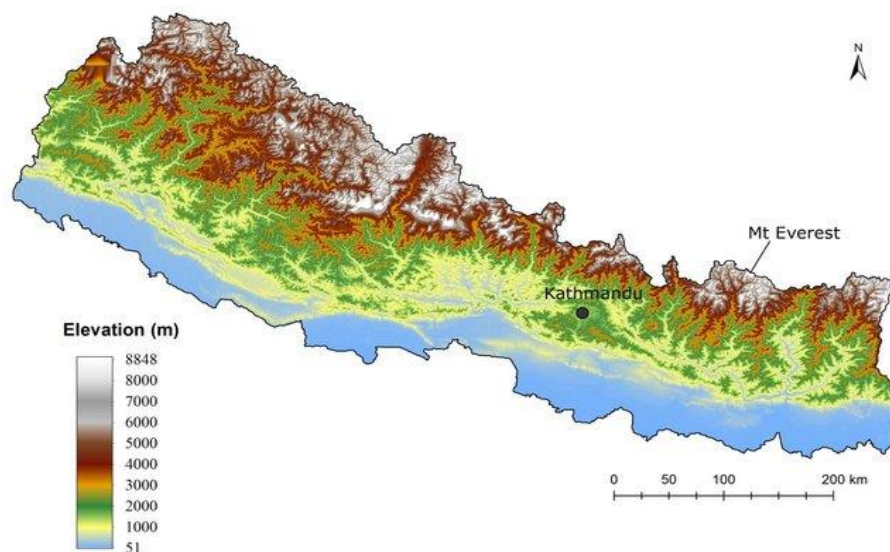


Figure 1- Elevation map of Nepal.²

The label LDC, in general, reveals itself in multidimensional poverty (Gioli, et al., 2019, p. 438), high dependency on natural resources, weak governance capacity and weak economic performance overall. For Nepal, the country's sensitive geographic location additionally leads to Nepal's high vulnerability to climate change (Reid et al., 2009, pp. 2,11; Agarwal, 2010).

2.1.1 Rural Livelihoods in Nepal and Climate Change

The Ministry of Environment identified the sectors most sensitive to climate change being agriculture, water, forestry, and health (MoE, Climate Change Vulnerability

² (Sudhakar, Shaik, & Satish, 2018), uploaded by Mr Sudhakar, permission given to use image.

Mapping for Nepal, 2010). In Nepal, 69% percent of its 29.7 million habitants live in rural areas and are involved in agricultural labor. These people mostly depend on subsistence farming and other natural resources. The country's current poverty rate stands at 21.6 % of its habitants (numbers from 2015, UNDP Nepal, 2019). Climate Change poses an additional threat to rural livelihoods and the agricultural sector (WFP, UNEP, & NEPA, 2016) due to their high dependence on climate and weather. Severe droughts and uncertain weather conditions pose a serious threat to agricultural production and consequently threatens food security in Nepal.

Conway and Chambers famously describe livelihoods as an entity which: *"comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation [...]"* (Conway & Chambers, 1991) as picked up by Ellis (2012, p. 7, 10). Livelihoods are a universal construct and apply for rich and poor, urban, and rural communities. As rural communities depend to a greater extent on agriculture than urban livelihoods and, in turn, changes in the climate affect agriculture, the focus will be set on rural livelihoods. The Food and Agriculture Organisation of the United Nations (FAO) specifies the definition in terms of rurality as such: *"Rural livelihoods are a broad concept, which stretches across a number of domains and disciplines to capture the different ways in which ecological systems, socio-economic systems, and their governance contribute to determining income generation and distribution in rural areas."* (FAO, 2014). LAPA aims to use the assets identified in Conway and Chambers' definition and incorporate them into existing local-to-national development projects. Livelihoods are not only what people do for a living, but more importantly also which resources they provide them the needed capability to build a satisfactory life (Ellis & Freeman, 2004, pp. 2-3; Steffen, et al., 2018, p. 8254).

2.1.2 Gender in the rural context of Nepal

In Nepal, sociocultural practices, such as patron-client relations, in the form of tenancy relations have been integral to agricultural production, however, the effect of hazards can be socially differentiated (Onta & Resurreccion, 2011). Women are identified as particularly vulnerable to climate change due to pre-existing structural socio-economic discrimination (GoN, 2011). Based on Bhattarai et al. (2015), Resurrección et al. (2019, p. 497) suggest, that within similar geographical regions, cultures, ethnicities, castes, and ecological settings, discriminative practices are likely to intensify with increasing environmental change. These discriminative practices target mostly women, third-gender people, and people in the lowest caste, the so-

called Dalits (Vaidya, Shrestha, & Nasab, 2019, p. 404). Male outmigration was observed during this study. That has several effects for women: First, it is adding additional challenges to agricultural productivity by creating labor shortages and, in turn, increasing the workload on a woman (Rasul, et al., 2019, p. 329). However, secondly, it also puts them into control of household economic affairs which traditionally was controlled by men (Resurrección, et al., 2019, p. 501). Thirdly, the problem is that women lack access to information to and about climate change and its effect, together with a lack of mobility, decision-making power, and training. Socio-cultural barriers and norms solidify conventional gender relations (patriarchy-led) and responsibilities, which are reinforced by male outmigration (Mishra, Nambi, & Choudhury, 2019, p. 463). However, male out-migration is only one factor to consider in evaluating gender vulnerability (Resurrección, et al., 2019, p. 501). Highlighting a gender-sensitive perspective for this study is consequently inherent to the object of investigation and main emphasis of LAPA. Successful adaptation to climate change depends on addressing gender disparities constructively (ibid., pp. 502-503), which LAPA officially prioritizes (GoN, 2011).

2.1.3 How Nepal addresses climate change

In 2010, the Nepalese Government submitted its National Adaptation Plan for Action (NAPA) to the UNFCCC (Chaudhury, et al., 2014). But the limitations of NAPA were recognized from an early stage. The top-down approach – although achieving a broader appeal – lacked the proper recognition of local needs and realities. Based on that, Nepal developed a more localized version, called LAPA in 2011. LAPA is the first national legislation to uplift the local voice into local-to-national development processes systematically and is therefore of exceptional interest. Parallely to LAPA, the Government of Nepal adopted the Climate Change Policy, aiming to address the diverse impacts of climate change by improving livelihoods through climate-friendly and economic development.

Nepal's National Adaptation Programme for Action (NAPA)

NAPA needs to be seen as one tool to assess climate vulnerability, to *"systematically respond to climate change adaptation issues by developing appropriate adaptation measures"* (MoE, 2010, p. ix). The NAPA framework includes six thematic and two cross-cutting areas (Chaudhury, et al., 2014, p. 7):

1. Agriculture and food security
2. Water resources and energy
3. Forests and biodiversity

4. Public health
5. Urban settlement and infrastructure
6. Climate-induced Disaster

According to the framework itself, NAPA is set within the country's development objectives mentioned in the national planning strategies. These objectives aim to address the specific economic and socio-political conditions prevailing in the country (MoE, 2010, p. 3). Intertwined with the CCP, the overriding goal of NAPA is to reduce the poverty rate in Nepal. Therefore, the framework explicitly focuses on urgent and immediate national adaptation actions with a focus on poverty reduction (ibid., p. 6). NAPA strives to mainstream climate change into existing development activities with a focus on poverty reduction, livelihood diversification, and resilience-building activities on the community-level (ibid., p. 7). That way, NAPA aims to enable Nepal's responsiveness to climate change adaptation by highlighting key-steps such as to assess and prioritize climate change vulnerability, developing proposals for adequate adaptation activities. For that, one priority highlighted is first to finalize the NAPA document. Other aspects highlighted are to maintain a knowledge management learning platform as well as to develop a multi-stakeholder framework of action on climate change.

Local Adaptation Plans of Action (LAPA)

In contrast to NAPA, LAPA aims to mainstream and up-scale climate change adaptation processes into existing local-to-national development processes and outcomes. The LAPA framework supports the operationalization of the policy objectives outlined in the NAPA framework but highlights local adaptation plans by emphasizing specific local realities. Not only just in geographical terms but primarily to address the most marginalized and vulnerable communities and households (GoN, 2011, pp. 1-2). Therefore, LAPA aims for the social dimension of vulnerability (section 3.1). Mainstreaming, or 'up-scaling' has become increasingly important in international climate policy as well as national and local climate change responses (Larsen, et al., 2012; Laukkonen, et al., 2009; Schipper, Ayers, Reid, Huq, & Rahman, 2014). Klein, Schipper, and Dessai (2005), view the mainstreaming of "*[...] adaption into local, regional and national government structures and processes [...]*" as more sustainable, efficient and effective than down-scaled development projects. Designed as a bottom-up approach in terms of planning, identifying, and assessing adaption needs, LAPA aims to be more inclusive, responsive, and flexible (GoN, 2011). That way, site-specific, urgent, and immediate actions for vulnerability reduction are aimed for (Lamsal, 2014, p. 29).

LAPAs focus on climate change adaptation, highlighting local involvement, stands out (Regmi, Star, & Filho, 2014, p. 3). It is considered a unique model for implementing adaptation strategies on-the-ground and for bridging the gap between autonomous and planned adaptation in order to reduce the long-term climate risks (Vij, Biesbroek, Groot, Termeer, & Parajuli, 2018, p. 2; Regmi & Bhandari, 2012). LAPA operates within the priority areas identified in the NAPA (water, forest, agriculture and biodiversity – Chaudhury et al, 2014). Local participation is fundamental to successfully assess the vulnerability of specific sites. Village Development Committees (VDCs) are identified as core units for local adaptation planning and implementation. Due to the federal reform, VDCs have now merged to *Gaunpalika's* (Rural Municipality).

Two problematic aspects need to be highlighted: As the national framework of LAPA emphasizes a participatory, and bottom-up planning process, (GoN, 2011, p. 2) an analysis of the de facto role of participation within the planning and implementation process of LAPA in Nepal is strongly needed. Scholarly literature on locally induced adaptation processes claims that performing communities tend to focus on infrastructure projects and improvements in access to education while lacking a climate angle. Additionally, the short-term and donor-driven character of LAPA increases the chances that the implemented project might instead reflect the donor's policy than the real needs of the community which consequently results in the community's needs not being addressed adequately (Vij, Biesbroek, Groot, Termeer, & Parajuli, 2018, p. 2). Secondly, it yet needs to be elaborated on how mainstreaming of site-specific climate- and social realities into existing local-to-national projects can effectively decrease climate vulnerability, if at all.

2.1.4 Community Forestry (CF) in Nepal

LAPA is not the first attempt to institutionalize local planning in development projects (Vij, Biesbroek, Groot, Termeer, & Parajuli, 2018; Vij, Biesbroek, Groot, & Termeer, 2018). Community Forestry (CF) is a well-known early example of a community-based intervention, still in practice. The term community forestry has been used for community-based forest management initiatives associated with either private –, common- and or forests on indigenous people's lands (Charnley & Poe, 2007, p. 304). The first processes to hand over government-owned forests to communities to manage the forest for their collective craft (Thwaites, Fisher & Poudel, 2018, p. 14) in Nepal were initiated back in 1976 (The National Forest Plan). In 1993, the Forest Act was passed, enforcing Nepal as a pioneering country in that regard. Since then, the concept developed further and by 2017, 30 percent of Nepal's forests are managed by Community Forest User Groups (CFUGs) (Charnley & Poe,

2007, p. 306; Thwaites, Fisher & Poudel, 2018, pp. 14-15). CF proved beneficial for both, involved communities, and the environment (Charnley & Poe, 2007, p. 318). Forests have successfully been reforested and the communities have the user-rights of the forest products for subsistence- and for income generation. 44 percent of Nepal's population is still involved in CF (Thwaites, Fisher & Poudel, 2018, p. 15). The CFUGs are organized at the community level and closely cooperate with the District Forest Office. That is similar to LAPA. A difference between LAPA and CF is the settled timeframe. Whereas LAPA is only set up for five years per project, CF prepares plans for a much longer duration.

The operational plan contains all needed rules and regulations concerning the CFUG and its forest-related activities and responsibilities. The CFUG is led by an elected committee for up to five years for each position. The committee meets on a monthly basis to make decisions regarding the group's activities. That way, the sustainability of the group's activities should be guaranteed and its sustainable use of the forest products for developmental purposes implemented. For example, it is regulated that extracted timber must be sold to the members of the CFUG first. Only the surplus can be sold in other markets. It is additionally regulated that up to 25 percent of the income is to be spent on livelihood improvement and relating development projects. According to Ojha et al. (2009), examples of such investments are irrigation canals or providing scholarships for children of low-income families. In return, CFUGs have full responsibility for the assigned forest area. They are responsible for forest fire protection and water resource management, as well as tree plantation, guarding the forest and clearing bushes. Since CF was initiated over 30 years ago, it is well researched and acclaimed, but also pugnacious. Concerns have been raised regarding the extent to which CF has or has not improved the livelihoods of its users. On the other hand, it has been praised as a participatory model benefitting both, its users and the Nepalese forests (Thoms, 2008). Paudel et al. (2013) conclude, that it is especially the tenure system in CF which supports and encourages long-term engagement. In contrast, tenure rights and especially ownership are named as a critical aspect in LAPA, as they are not entirely clarified (Chaudhury, et al., 2014, p. 39). During my research, the issue of ownership was repeatedly highlighted by the informant at all levels. Strong local institutions and working democratic structures support CF's aim to increase involved communities' resilience (Agarwal, 2010). Like LAPA, CF intends to empower generally disadvantaged groups like women and low-caste people by providing them access to forest resources and include them in the decision-making progress. However, these social aspects are difficult to measure (Ojha et al., 2009). In some cases, CF even supported elite capture, corruption and deforestation. The same negative effects are observed within LAPA.

3 The conceptual framework

Section three introduces and elaborates on the theories and concepts used in this thesis to understand how CBA and LAPA aim to decrease climate vulnerability by encouraging local (public) participation. First, I will elaborate on the term ‘vulnerability’ (3.1) and concretize the terms’ use for this thesis. Here, we will look closer to Ribot (2010), Füssel (2007) and O’Brien et al. (2007). Having elaborated and contextualized vulnerability, the term ‘adaptation’ (3.2) in the context of climate change will be discussed. Section (3.3) focuses on CBA with an emphasis on participation within CBA. This section ends by highlighting two key challenges identified in the corresponding literature of CBA.

3.1 Vulnerability in the context of Climate Change

The term vulnerability is interpreted in various ways by numerous different scholarly communities (Füssel, 2007). This variety of definitions is especially causing debates in interdisciplinary disciplines like research on climate change, public health or ecology (ibid.). It highly influences any attempt to elaborate on a formal model of vulnerability. Two main perspectives on climate vulnerability can be elaborated: vulnerability seen from the end-point and vulnerability from the starting point perspective.

The end-point perspective defines vulnerability as what remains after the potential threat (i.e. a hazard) is addressed and processes of adaptation have been implemented (Adger & Kelly, 2000, p. 326). O’Brien et al. (2004) conclude, that vulnerability defined in that way is the sum of the net impacts of climate change and can be represented quantitatively as a monetary cost, as a change in yield or flow, human mortality, ecosystem damage, or qualitatively as a description of relative or comparative change (ibid., p. 75). The definition used by the IPCC Third Assessment Report (TAR) is an example of vulnerability seen from the end-point approach. It is defined there as “*the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes*” (Khan et al., 2009, p. 19). With O’Brien et al. (2004, p. 75) the end-point approach can be summarized as ‘outcome vulnerability’: A linear result of the projected impacts of climate change on a particular exposure unit.

The starting-point interpretation of vulnerability, in contrast, describes the search for the root causes of vulnerability, including social aspects of local livelihood strategies and social capital (ibid.). Considering biophysical conditions follow a general understanding of the dynamics between social and environmental changes (human-ecological systems, Turner et al., 2003). As these factors tend to change, vulnerability seen from the starting point perspective is a highly dynamic entity in a continuous state of flux as the biophysical and social processes shape local conditions and the ability to cope also to change (Adger & Kelly, 2000). Thus, vulnerability is seen as the current inability to cope with external pressures or changes (here, climate change). The basic assumption is, that by addressing the present-day vulnerability, potential vulnerability in the future will be reduced, as social aspects of vulnerability are taken into account (Burton et al., 2000).

That can be summarized as contextual vulnerability, as it is based on a multidimensional view of climate political interaction. In general, that approach assumes, that climate variability and change are considered to occur in the context of political, institutional, economic and social structures and changes, which interact dynamically with contextual conditions associated with a particular exposure unit. These contextual conditions influence the exposure to climatic variability and change as well as potential responses (ibid.). That also means, that vulnerability is located within the social system and society itself and is described as the lack of means to protect or sustain oneself in the face of climate events (Adger N. , 2006). Reducing vulnerability from that perspective involves altering the context in which climate change occurs, for individuals and groups to better respond to climate change. This study follows the perspectives of vulnerability seen from the starting-point of analysis (or contextual vulnerability; O'Brien et al., 2004; Adger & Kelly, 2000, p. 328, Ribot, 2010, p. 51). Here, vulnerability is recognized as a state which is generated not just by climate change but caused by multiple factors and stressors. That means that there are multiple possible entry points for potential interventions (ibid., p. 12). Technical solutions to push adaptation are as possible to be implemented as interventions aiming at the social aspects of climate change adaptation. Pure technical solutions but are likely to fail in the long run, as they do not consider existing social, economic and political structures that may increase inequality (ibid.). Both CBA and LAPA drawback on contextual vulnerability.

3.2 Adaptation to Climate Change

Depending on the perspective on climate vulnerability, two approaches to address climate change can be differentiated: Mitigation and adaptation. Mitigation aims to prevent further climatic changes by striving to reduce any additional Greenhouse

Gas emissions (GHG) and hence control the amount of GHG in the atmosphere. This thesis focuses on adaptation, which is defined by O'Brien et al. (2004) as *"the potential or ability of a system, region, or community to adapt to the effects or impacts of climate change"* (Smit & Pilifosova, 2001, p. 881). Adaptation aims to reduce people's and the ecosystem's climate vulnerability. Consequently, adaptation is perceived as a local issue, hence it needs concrete actions, whereas mitigation is addressed as an international issue (Bastakoti & Davidson, 2014; Bushley, 2014; Marquardt, Khatri, & Pain, 2016). Ayers & Dodman (2010, pp. 161-162), add the factor of potential future risks to that definition, so that adaptation is now described as an adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. That way, adaptation is understood as either a process, a single action or as an outcome in a system.

Adaptation activities thus aim to support a system (ecosystem, household, community, groups, sector, region or country) to better cope with, manage, or adjust to changing conditions, stresses, hazards or risks associated with climate change (ibid.). Important determinants of adaptive capacity are the range of available technological options, resource availability and their distributions among the population. However, definitions commonly used, often do not take the underlying drivers of vulnerability, stemming from basic developmental needs, into account (ibid., p. 164). That consequently leads to majorly policy approaches based on scientific and technology-rooted perspectives on adaptation, which often results in rather technical projects, like dams or early-warning systems. It is argued in the relating literature, that this blurs the line between adaptation and development activities. As mentioned earlier, LAPA and other community-based approaches are also affected by that. If adaptation is interpreted in its technological aspect only, scholars claim that adaptation then is seen only in its narrowest appearance: adaptation only to the anthropogenic caused climate change.

Practitioners of CBA argue that this definition limits the extent to which adaptation can contribute to a broader and more sustainable reduction of vulnerability (ibid, p. 165). Huq & Ayers (2008, p. 52) claim, that good, or sustainable development (in terms of policies and practice) can (and often does) lead to increasing the adaptive capacity which, in return, means that adaptation done right means doing good and sustainable development. There is consequently a need for activities comprising both development and adaptation activities to address the underlying causes of vulnerability as well. Salzmann et al. (2016) define that approach as a planned adaptational adjustment, where deliberative policy decisions result out of, based on the awareness that certain conditions have changed or are about to change and action is required to return to, or achieve the desired state (ibid., p. 7). Such a planned

approach is necessarily multidimensional and complex, and it remains yet open how to address effective and potential limitations of adaptation successfully.

An important prerequisite for anticipatory or planned adaptation is the knowledge of the characteristics and magnitudes of changes and trends of key climate variables and the associated (potential) impacts, risks, and vulnerabilities. In other words, it is crucial to be aware of the impacts and risks a society does need to adapt to. To provide this basic information, reliable, long - term and a continuous baseline data of climatic and societal characteristics is necessary in order to derive trends and detect and determine changes. Respective data is also required for the site-specific realities, yet, is often lacking. That is a serious impediment. Consequently, adaptation measures must often be developed based on incomplete or weak databases. The involvement and incorporation of local knowledge is thus a viable approach to extract needed data as well as the target groups' respective socio-economic context. To effectively work with the information provided, Salzmann et al. (2016) argue that a high level of science-policy dialogue is needed, combined with intersectional openness and trust within and between the different stakeholders. However, in contrast to that, there is a trend of implementing adaptation projects often project-based only. That way adaptation measures are developed and implemented within a specific funded project only and are therefore limited to a period of typically 3-4 years. LAPA is implemented that way as well, which is why the approaches intention of mainstreaming adaptation into existing local-to-national policies is at stake.

As both, regular development activities and adaption processes, tend to work on the same issue, synergies, as well as tensions (trade-offs) between both approaches, can be identified (Reid et al, 2009, p. 13). Reducing vulnerability as the fundamental leverage point is intertwined with activities like reducing disaster risks, food and water insecurity, maintaining ecosystem services, and improve human health conditions by eliminating poverty and inequality. Enhancing human and nature system's resilience in the named thematic areas is linked to enhanced investments in physical and social infrastructure in affected regions (IPCC, Summary for Policymakers, 2018, p. 21).

3.3 Community-Based Adaptation (CBA)

Community-Based Adaptation (CBA) is the result of the learning process that it is people (communities) that bear the brunt of climate change impacts (McNamara & Buggy, 2016, p. 444). As vulnerability to climate change varies across regions, sectors and social groups, it is essential to understand the regional and local dimensions

of vulnerability to develop adequate adaptation efforts (Khan et al., 2009, p. 19). That, in return, requires the involvement of local communities, allowing local people to determine the objectives and means of adaptation practices (Forsyth, 2013, p. 439). CBA is therefore based on the premise, that "*local communities have the skills, experience, local knowledge, and networks to undertake locally appropriate activities that increase resilience and reduce vulnerability to a range of factors including climate change*" (Forsyth, 2013, p. 439; Dodman & Mitlin, 2013; Nightingale A. J., 2015, p. 224). Based on these assumptions, CBA combines information from both local, participatory forms of assessment, and wider scale assessments of risks from climate change scientists (Forsyth, 2013, p. 441; Ayers & Forsyth, 2009). In practice, however, CBA is often similar to development activities (Ayers & Dodman, 2010).

Reid & Huq (2014) define CBA to climate change as '*a community-led process, based on communities' priorities, needs, knowledge, and capacities, which should empower people to plan for and cope with the impacts of climate change*' (p. 291). Community-based approaches are designed as a participatory bottom-up approach in order to reach a suitable local response. The outcome should be environmental resilient and enhance a community's and a household's resilience to climate change to better cope with climate-induced uncertainties and unpredictable characteristics of climate change (Ayers, Alam & Huq, 2010; Ayers & Forsyth, 2009). In that way, CBA focuses on the social dimension ('contextual vulnerability', see section 3.1) of climate change adaptation (Ayers & Forsyth, 2009, p. 445). As the effects of climate change are hard to predict in general and even harder to scale down for communities, CBA combines methodological tools from both, Disaster Risk Reduction (DRR) and general community development (Niraula & Pokarel, 2016; Reid et al., 2009, pp. 11, 13). That is because natural disasters are frequently among the first events communities experience (ibid.). It also draws back to the definition of vulnerability used for this research (section 3.1). The combined use of participatory and disaster risk approaches results in several modes of CBA, comprising areas such as cropping systems, soil health, land and water use in affected areas (Forsyth, 2013, p. 441).

A flexible concept is thus the most suitable way to address the unpredictability of future climate effects. That is in line with Reid et al. (2009), who argue that '*climate change is only one of a range of natural, social, and economic problems that may face poor people [...], so it is unlikely that interventions focusing only on climate-related risks will reflect community priorities*'. Consequently, Regmi's statement refers to the interpretation of vulnerability as context-specific. In that regard, the methods used within CBA approaches need to be analyzed, to find out how it can and is mainstreamed into national and local development activities.

As Forsyth concludes, CBA mainly consists of culturally sensitive participatory research methods like interviews, group discussions (sometimes with a gender-specific approach), and observations of local people (Forsyth, 2013, p. 440). These actions aim to ensure that the activities resulting from the assessment are adjusted to the local needs (*ibid.*). In cooperation with NGOs, participatory risk assessments are conducted in cooperation with local stakeholders, to shape the purpose of the intervention (Forsyth, 2013, p. 441). However, this process mirrors the difficulty of transferring highly localized and heterogeneous measures into broader scales. In other words: It remains yet unclear how the transition (mainstreaming) of contextualized approaches into existing policies can be performed (Forsyth, 2013, p. 439; Dodman & Mitlin, 2013; Regmi & Star, 2014). Ayers et al. (2014) define mainstreaming as a process in which an issue is integrated into already existing institutions and decision-making processes. Referring to Dalal-Clayton & Bass (2009), Ayers et al. (*ibid.*) add, that environmental mainstreaming is defined as the informed inclusion of relevant environmental concerns into institutional decisions that drive national and sectoral development policy, rules, plans, investment, and action. However, a commonly agreed on definition of mainstreaming and up-scaling is not to be found in the literature. Klein, Schipper & Dessai (2005) argue that mainstreaming aims to include a broader range of stakeholders, in particular, governmental agencies, to move away from localized isolated projects on the one hand and general policy interventions on the other. Climate change comprises challenges in which small-scale, localized stand-alone initiatives will not be enough (Reid & Huq, 2014). Therefore, CBA projects should be integrated into different levels of policy. That way, a higher level of sustainability, efficiency, and effectivity can be reached. In return, better coordination with involved stakeholders can be assured, technical and financial assistance guaranteed, and knowledge is shared along the lines of command (Reid, & Huq, 2014; Forsyth, 2013, pp. 441-442). LAPA is the first national- and large-scale legislation based on CBA, aiming to incorporate that, by providing a framework for climate change adaptation activities in Nepal. LAPA is seen as the institutionalized way of ‘bridging the divide’ between top-down and bottom-up approaches (McNamara & Buggy, 2016, p. 446). But how LAPA is doing that is yet to be elaborated.

3.3.1 Participation

The acknowledgment of local participation in the planning- and decision-making process aims to enhance a project’s longevity and sustainability (Lake & Zitcer, 2012). However, participatory approaches are not flawless. In practice, local (public) participation is often hard to achieve and contextually considered counterproductive, even by pro-democratic scholars, especially in the context of climate

change adaptation (Burton & Mustelin, 2013). The difficulty to incorporate ‘participation’ successfully, lies in the often-blurred narrative of ‘participation’ within developmental projects. If not defined clearly how local participation is envisioned and how it will be incorporated, participation is open for interpretation, often to the disadvantage of the original target group. Burton & Mustelin (2013) further argue, that it is the complexity of climate change that exacerbates local participation, as it is either ignorance or the object's abstract appearance that hinders it. However, in line with (Ojha, et al., 2015, p. 15), Burton & Mustelin add that local participation is nevertheless fundamental for effective adaptation. It can be derived that the author's critique furthermore addresses the difficulty of incorporating local participation due to weak governmental structures. More local decision-making power, if followed in a democratic sense, leads to an increase of elected local leader's responsiveness and accountability. In return, that is defined as an integral component of adequate representation (Ribot et al, 2008, p. 5).

Key-challenges of CBA

In the literature on CBA and participation, two main challenges can be highlighted: First, it is claimed that local participation is often hindered or limited by struggles over power, and authority within involved stakeholders. It is argued, that this often leads to inequitable outcomes and power relations, often to the disadvantage of the target group (Nagoda & Nightingale, 2017; Ayers & Forsyth, 2009). The critical literature on LAPA argues similarly.

It is, secondly, and with regard to the mentioned theory, worth analyzing, how, CBA and LAPA practically address contextual climate vulnerability.

4 Methodology

A small-scale field study with a qualitative approach as described by (Bryman, 2012, p. 45; Creswell, 2014, p. 31) was conducted to address the object of investigation. By using a qualitative approach, I put my research between the '(social) constructivist' and 'pragmatic' worldview (Creswell, 2014, p. 35). That restricts me to the use of only specific research designs and methods. While the constructivist approach is inherent to qualitative studies, the pragmatic perspective is not. Social constructivism is relevant for this study as I aim to investigate '*subjective meanings of [...] experiences*' (perceptions) (ibid., p.37).

As the constructivist approach demands it, a variety of perspectives will be given in order to compare perceptions between districts, communities, and other stakeholders. The empirical outcome will be linked to the existing literature on LAPA in Nepal as well as to the theoretical approaches mentioned in the previous section 3. The research was assisted by the Nepalese non-governmental organization Southasia Institute for Advanced Studies (SIAS). SIAS supported me by organizing the interviews and in the field by conducting interviews and translating the data. SIAS' support was essential for this research.

4.1 The research design

Qualitative research is commonly associated with conducting case studies as a suitable methodological approach (Bryman, 2012, pp. 67-68). A case study is described as an intensive analysis of a single case (ibid., p. 66). The term 'case' commonly refers to a specific unit, which in this thesis is local communities and organizations (ibid., p. 67). Yin elaborates, that a case study as an empirical inquiry, comprises investigations on a contemporary phenomenon within its real-life context, especially when boundaries between the phenomenon and context are not evident (Yin, 2014, p. 13). These contextual conditions are best captured within a case-study (ibid.). Therefore, the case-study design was selected to investigate the role of local participation within LAPA preparation and implementation in Nepal. The field study was conducted in four different districts: Kathmandu District, Ramechhap, Dang, and Chitwan to support the 'multiple-angle perspective'. The study comprises perspectives from three different political levels: federal, municipal, and performing communities.

The limited number of interviews conducted for this study only provides a snapshot of the complexity climate change adaptation is facing in Nepal. However, this study nevertheless contributes to current debates on participation within CBA and LAPA.

4.2 Data collection process and selection of participants

Considering that the research methods are supposed to mirror the actual content of the data collection and the research questions itself, I need to point out that I was not able to conduct most of the interviews in the field by myself. I strongly relied on my partners from SIAS when having interviews with Forest User Groups and/or informants on the Municipal level. We decided to conduct the interviews in a ‘tri-angle-way’. I asked the informants the question in English, my partner then translated the question to Nepali and then summarized the informants' answers back to me in English. That way, I was able to adjust the next question. It indicates that a more detailed and carefully prepared interview situation was needed. To maintain the intended quality, we evaluated the process after each interview. That was of importance since the use of the questionnaires was adjusted before and during each interview. That means that some questions were left out or combined according to the process of the interview and the responses of the informant. This approach fitted the semi-structured character of the questionnaires itself (see section nine, Appendix). At the end of each interview, the informant(s) was/were given a chance to express themselves freely and share any thoughts on the topic, yet, that opportunity was not used to the extent I intended.

The overall period of the field study spanned over seven weeks and three days. Out of this period, two weeks comprised trips to Ramechhap, Dang and Chitwan. Despite that short period, most of the interviews in this study were conducted within these two weeks. As I aimed to conduct interviews on three different levels, I created three different questionnaires to be able to extract situated knowledge and perspectives. The questionnaire did not stand in contrast to each other; instead, they form an entity as interconnections were placed throughout on purpose. This approach enables me to compare different perspectives on and perceptions of the same topic by putting claims from these different sites in contrast. Interviews with selected participants are the most common data collection technique for qualitative research (Wester, Mishra, Mukherji, & Shrestha, 2019). Overall, 24 interviews have been conducted. *Table 1(Appendix)* visualizes the interviews conducted.

Due to the rather spontaneous decision to include Chitwan in our field study, we were unable to reach out to governmental representatives. Instead, we included one non-governmental point of view (CARE Nepal) and one Forest User Group.

After we experienced a lack of participation of female informants within gender-mixed focus group discussions in Ramechhap, we changed our elicitation and conducted the interviews of female- and male respondents separately to create an environment safe for the informants to share their experiences and perceptions (Madriz, 2000, p. 835). Following Madriz's approach further, separating the groups as an *"[...] collectivistic rather than an individualistic research method that focuses on the multivocality of participants' attitude, experiences, and beliefs"* (ibid., p. 836). That helped to conduct women's perspective on LAPA better. In close cooperation with informants in the field, we decided upon which Forest User Group would be logistically reachable for us and whether the considered community-operated within the object of investigation. A mixed-use of purposive and convenience sampling led me to the final selection of informants. A gender-balanced approach was intended, yet, due to local realities, more male than female perspectives were captured. Ethnical distinctions were not considered in this research.

4.3 Observations and note-taking

Observations – in the context of participatory studies – allow the observer to immerse him-/herself in the very setting and situation the informant is in (Simons, 2012). Observations are essential to catch non-verbal communication during an interview situation too. It can be claimed that some aspects of non-verbal communication are 'universal language'. Certain gestures can count as such. However, in a social environment different from once own, these patterns of non-verbal communication can be hard to differentiate. This empathetic component of my research enabled me to understand the respondent's reality better. The observations I made have been conducted in a disorderly manner, giving me more freedom on what to classify as observable. However, I am aware that my interpretations of social behavior have limitations and need to be handled with care in terms of interpretation. I focused on 'active' observations (Johnson, Avenarius, & Weatherford, 2006) made during the interviews conducted. The beforehand described 'triangle-setting' of the interview allowed me to pay special attention to the way our informants replied to specific questions and thus catch essential details on how they perceive certain activities or actions taken. To increase the validity of my observation and to make sure I interpreted my observations correct, these findings were part of our reflection process after each interview. Passive observations were inevitably be conducted throughout the field study. Combined, unstructured active and passive observations created a crucial fundament for my research and a better understanding of the field setting in general.

4.3.1 Reflexivity

Awareness of the complex nature of communication in different cultures and intercultural contexts is essential for field studies in the social science field. Communication, verbal, or non-verbal can reveal social differences by implying utterances in less respectable ways, for example. The unstructured observations of non-verbal communication (like gestures and the vocal pitch) supported my analysis of the interview itself (section 4.3) and helped me to assess the course of conversation. That allowed me to get a feeling of the participant's well-being throughout the interview to notice whether he/she felt uncomfortable to talk about certain aspects or and based on gestures and tune of voice note when topics rose tensions. To eliminate interpretational errors, my impressions of these non-verbal factors were discussed after each interview as well. It turned out quite reliable while going through the transcriptions resulting in a more detailed picture of the scene. Constant consultation and reflection were inevitable to assure that my partners and I are working towards the same goal. Nevertheless, misinterpretations could, of course, also occur on my partner's side. By comparing my partners and my perspective on the informant's statements, we tried to minimize these errors. Finally, I am aware that appearance as a westerner alone could have caused contortions in the respondent's answers. The informants might have felt obliged to respond or behave in a certain way, which influences the aimed setting of comfort negatively.

4.4 Selection of the cases

The study sites visited during this study were selected based on specific determinants. First and foremost, the project chosen was influenced by the site's logistical accessibility. The limited timeframe and financial resources reduced the scope of the project. Most of the LAPA sites are but in very remote hilly areas, which are only accessible by airplane and long walks, thus unreachable for me. Furthermore, all sites were facilitated by different stakeholders using different tools mentioned in the LAPA framework. All sites selected, officially operated under this framework.

Taking these criteria into account, the Districts Kathmandu, Ramechhap, Dang and Chitwan were selected. In Kathmandu, I interviewed one government official, two informants from government-led organizations, and three respondents from the non-governmental/civil society sector. In the three other districts, we first had contact with an informant from the civil-society or non-governmental sector to establish contacts with relevant stakeholders from the government side. It turned out as crucial to have these connections in order to reach staff from the rural municipality or Ward. In Ramechhap, LAPA was implemented by the Multi-Stakeholder Forestry

Program (MSFP) and facilitated by the Federation of Community Forestry Users Nepal (FECOFUN). Dang was selected, as two of the named large-scale programs operating on climate change adaption, i.e. ASHA and NCCSP are operating there. In Dang, only project sites of NCCSP were considered, as ASHA and NCCSP operate in a similar way. Interviews in Chitwan (HBP) were based on the information given by informants in Kathmandu and Dang. Informants highlighted that LAPA implementation was performed on a different scale than the framework in Chitwan and therefore of interest for this study.

Two Forest User Groups were interviewed in Ramehnap and Dang, whereas in Chitwan we only interviewed one. Different implementing agents (MFSP, NCCSP, HBP) for each site allowed a better comparison of each intervention. All sites are located in comparable biophysical regions to improve the scale of comparison. In return, that increases the possibility that communities experience similar scarcities and weather phenomenon's, thus, the projects implemented under LAPA should address similar issues.

5 Findings

Section five presents the empirical findings of my research. Section 5.1 focuses on the LAPA planning and implementation process according to the national framework. Here the three large-scale projects analyzed are described as well. Section 5.2, 5.3, and 5.4 will answer the research questions. Section 5.2 identifies a significant gap between the LAPA process outlined in the framework, the processes described by involved governmental and non-governmental stakeholders, and the perspective of performing communities. In addition, section 5.2 indicates that LAPA fails to provide a stable institutional framework it aims for. Section 5.3 highlights the community's de facto participatory role in the sites visited. Section 5.4 emphasizes the type of projects being implemented and identifies beneficiaries. The results further reveal on what the community would focus, if fully in control.

5.1 Who is involved in the LAPA preparation process at what stage?

The preparation process described in this section is mainly based on the political structure before the federal reform in 2017. That is because critical LAPA-documents and administrative processes were still being reviewed and adjusted the time this study was conducted. In the case of the new LAPA framework, I had to work with a draft version. The LGOA (2017) had to be translated from Nepali to English for me. Some federalized adjustments were already practically implemented, such as the restructuring of the local governments from VDCs to *Gaunpalikas*. However, I experienced a high level of uncertainty among stakeholders at the municipal and local levels, due to the new bureaucratic processes in general and the overall ambiguity of the new local governments and their new powers and responsibilities. The whole process of local-to-national integration as envisioned is visualized in *figure 3* and indicates that the LAPA preparation process consists of seven steps.

The LAPA framework supports four significant aspects of climate change adaptation. First, local adaptation plans which reflect the location or region-specific climate change hazards and impacts, are encouraged. Planned adaptation activities should be based on locally available options and must be accessible to the most vulnerable communities and households, including women. Second, the Local Self Governance Act (1999; now LGOA) is identified as a reference point for integrating local adaptation priorities into sectoral level planning processes. Third, the final

implementation of local adaptation priorities is supposed to be realized in time, in a sustainable way and for the benefit of the most climate-vulnerable ones.

Finally, the whole process is supposed to be continuously monitored and evaluated by implementing stakeholders to improve the process itself (GoN, 2011, p. 2). The four major goals are supported by seven smaller operative steps: Step one suggests 'sensitization' which refers to activities around awareness rising of climate change in general as well as in the communities' context including potential impacts on their livelihoods while highlighting adaptation options as well. In the same step, potential institutions that could implement developed adaptation options will be identified. Step two identifies the most vulnerable *Gaunpalikas* (former VDCs), communities, and finally households. That step is fundamental to develop adequate adaptation projects. These activities and projects are then prioritized (step three) based on their cost-effectiveness, sustainability and their capability to address the communities' needs and priorities (GoN, 2011, p. 15). Based on the identified activities, the fourth step makes sure that these activities are implemented. The fifth step then aims to finally implement the developed adaptation plan into existing local-to-national developments, in other words: to integrate the developed adaptation plan from the *Gaunpalika* level to the district and national level.



Figure 2 - National Framework for Local Adaptation Plans for Action: LAPA preparation steps; own creation based on (GoN, 2011, p. 7).

Step six suggests the implementation of the adaptation plan in close cooperation and coordination with identified stakeholders and other service providers. Finally, the seventh step is supposed to be continuous by assessing both monitoring and the implemented projects itself (ibid., pp. 19, 23, 25). The central implementing

organization is the Nepalese Ministry of Science, Technology, and Environment (MoSTE), which is mainly coordinated by the Ministry of Federal Affairs and Local Development (MoFALD). A focus on agriculture and food security (43% of all LAPA activities) are recognizable (Chaudhury, et al., 2014, pp. 2-3). Key delivery and implementation agents at the district and the community level are (still) local government entities (from VDC to *Palikas* and *Gaunpalikas* and from DDC to DCC). Overall, 15 participatory tools are enlisted in the framework in order to combine the bottom-up assessment of climate vulnerability with a top-down assessment of what creates that vulnerability and what support is needed (GoN, 2011, p. 35). The potential problematic aspect of this will be discussed in section six.

5.1.1 The Multi-Stakeholder Forestry Programme (MSFP)

The MSFP is a joint program of three donor states (the UK, Switzerland, and Finland) and the Government of Nepal (DFID, 2012, p. 2). The strategic focus lies on local governance, sustainable natural resource management, and on gender and disadvantaged groups at the community- and household level. (ibid., p. 3). MSFP operates with several partners. The Ministry of Forests and Soil Conservation (MoFSC) is the institutionalized arm of the program and chairs the process. A Multi-Stakeholder Steering Committee has been established from early on to guide and support the overall program. Here, this committee comprises the Government of Nepal, the donors, civil society, and representatives from the private sector coordinate the process (ibid.). With an overall budget of about US\$ 150 million, MSFP is set for a period of ten years (2011 – 2021). The Federation of Community Forestry Users Nepal (FECOFUN) and Environment, Culture, Agriculture, Research and Development Society, Nepal (ECARDS-Nepal), a Service Support Unit and a Programme Coordinator Office aim to tighten the cooperation between these actors. The Swiss Agency for Development and Cooperation (SDC) supervises the Service Support Unit. The PCO is accountable to the MoFSC of Nepal. Since 2016, the MSFP is active in 43 out of 77 districts of Nepal (Gurung, Bishwokarma, Rana, & Rana, 2016, p. 3). Out of the 43, 23 districts are part of the whole program, whereas the remaining 20 districts are just involved in specific thematic areas such as Sustainable Forest Management, Climate Change Adaptation and Forest-based Enterprise (ibid.). The case selected under the MSFP is from Ramechhap *Gaunpalika* comprising two Forest User Groups. Ramechhap district is named the second most vulnerable district to climate change in Nepal. (MoE, Climate Change Vulnerability Mapping for Nepal, 2010, p. 38).

5.1.2 The Nepal Climate Change Support Programme (NCCSP)

NCCSP supports and implements interventions dealing with climate change adaptation in Nepal in line with Nepal's NAPA from 2010. As highlighted in chapter 2.4.1.1, NAPA focuses on several project profiles. NCCSP mainly focuses on promoting community-based adaptation through integrated management of agriculture, water, forests, and the biodiversity sector (UNDP Nepal, 2019). Additionally, like any LAPA intervention, NCCSP is guided by the Climate Change Policy from 2011 and the National Framework on LAPA. NCCSP mainly strives to enhance the capacity and the institutional mechanisms of governmental and non-governmental organizations in order to implement the CCP. Furthermore, NCCSP aims to reduce the climate vulnerability of poor people in Nepal. In that way, NCCSP is the first significant intervention on climate change adaptation in Nepal (ibid.). The duration of NCCSP was set for one phase (2013 – 2017), but due to the federal reform, Phase I was extended in the Transition Extension from 2018 till Oct 2019 and currently covers an area of 43 *Gaunpalika*'s, 22 Municipalities and one Sub-Metropolitan City across three western provinces. The selected site in *Ghadawa* Rural Municipality in Dang District consists of 4 former VDCs in which 2 of them implemented LAPA before the federal shift. NCCSP is mainly implemented by MoFALD together with the Alternative Energy Promotion Centre while being fully externally funded by the UK-DFID, the European Union (EU), the Government of Cyprus and UNDP (Bahadur, Air, Uprety, & Midha, 2017). Dang District is categorized as "Low" in the overall vulnerability Index (MoE, National Adaptation Programme of Action to Climate Change, 2010, p. 38).

ASHA - Adaptation for Smallholders in Hilly Areas Project

ASHA is another government-led initiative by the MoFE. It is co-financed by the International Fund for Agricultural Development (IFAD). ASHA is supposed to run for six years (effective from 25 February 2015), with a total budget of US\$ 37.6 million (ASHA, 2019). Like NCCSP, ASHA aims to strengthen the institutional environment for climate change adaptation with a clear focus on local participation followed by a sub-watershed approach. ASHA's objectives are conservation, sustainable natural resource management, and climate change adverse impacts reduction (ASHA, 2019). ASHA distinguishes itself from other LAPA implementers by adding scientific information and analysis in their vulnerability assessment. According to their statements, ASHA operates like NCCSP (R5K 1:00:35). However, ASHA sites turned out to be located far too remote to be considered for this study. That is why this study focuses on NCCSP. Nevertheless, ASHA is not left out, as the interview with them provided the most substantial description of their LAPA preparation process. Additionally, their formulated sub-watershed approach incorporates LAPA and indicates a shift from the community level to a broader scale.

5.1.3 The Hariyo Ban Programme (HBP)

Like MSFP and NCCSP, Hariyo Ban operates in close cooperation with the Nepalese government. However, HBP mainly focuses on conservation and development strategies and is implemented by four international and national NGOs: The World Wide Fund for Nature (WWF-Nepal), the Cooperative for Assistance and Relief Everywhere (CARE), the Federation of Community Forestry Users in Nepal (FECOFUN) and the National Trust for Nature Conservation (NTNC) (R23S3). HBP was launched in 2011 as a short-term project with a period of 5 years. HBP aims to reduce climate threats to Nepal's biodiversity, consisting of three thematic areas: biodiversity conservation, sustainable landscape management, and climate change adaptation. HBP is financed by the USAID. The second phase of the Programme started in July 2016 and will run for another five years. This second phase aims at implementing the main learnings from the first phase by addressing biodiversity threats and climate vulnerability. The newly formulated goals are to increase ecological and community resilience in biodiverse landscapes – Chitwan Annapurna Landscape (CHAL) and the Terai Arc Landscape (TAL). Not only is the ecological approach different from the approach taken in MSFP and NCCSP, but HBP also focuses on landscape approaches, which are somehow different from LAPA's original intention at the community- and household level. On the national site, HBP works in close coordination with MoSTE. Each implementation partner focuses on a different area: Whereas WWF Nepal and NTNC prioritize bio-diversity conservation, so does CARE Nepal focus on climate change disaster, governance and general social inclusion of communities. FECOFUN supports CARE Nepal in advocating social inclusion and policy advocacy (R23S3). The selected case for HBP is from Ischya Manakamana Rural Municipality from Chitwan District. Chitwan is categorized as “High” in the overall vulnerability index of the MoE (MoE, 2010, p. 38).

5.2 LAPA implementation at different levels

I will especially highlight how uncertainty and lack of knowledge at the district and local levels hinder LAPA processes. In addition, the findings show that LAPA, despite being national legislation has not the capacity to provide the stable, long-lasting framework it aims to be. However, the following section provides further insight into the institutional context for LAPA preparation at the federal level.

5.2.1 At the federal level

NAPA and the CCP form the basis for LAPA implementation and adaptation activities in Nepal. However, the informants at the national and municipal level mainly perceive LAPA as "[...] *basically dictated, not dictated, the term is not right, but it was mainly facilitated by the Ministry (of Science, Technology, and Environment) and it was also supported bilaterally by the DFID [...]*" (R1K).

The Ministry of Science, Technology, and Environment (MoSTE) is the leading Ministry for coordinating and implementing climate change adaptation activities in Nepal. Even before the initiation of LAPA and the guiding legislations of NAPA and the CCP, MoSTE formed a Climate Change Council in 2009 chaired by the Prime Minister. Parallel to NAPA, a Climate Change Division was established within MoSTE in 2010 to have a coordinating unit for climate change adaptation activities. Within the climate change division, an operational division between climate change, sustainable development, and adaptation, and clean development mechanism aims to unfold the complex issue. However, it indicates a struggle over responsibilities and might thus affect the effectiveness of their outcomes.

MoFALD is the second crucial element at the national level. It is the only Ministry with a governance structure down to the local level, consequently the only link for the District Development Committees (DDCs – now District Coordination Committee, DCC), the Municipalities (*Nagarpalikas*) and Rural Municipalities (*Gaunpalikas*). Rural Municipalities range between five and twenty-one Wards, while Municipalities have between nine and thirty-five Wards (Local Government Operation Act 2017, s 5(2)). MoFALD supervises these units. However, the provisions of the LSGA (1999) made these units accountable for the management of natural resources within their district. With the federal reform and the LGOA (2017), their authority changed. The current Local Governments (LGs) have a much larger jurisdiction than before (Australian Aid, 2017, p. 4). In the original LAPA framework, DDCs and VDCs were designated key-agencies at the local level for overall adaptation planning (GoN, 2011, p. 4). That decision is justified due to their multi-sectoral and multidisciplinary alignment. Clause 24 of the LGOA-Draft defines the role of the Municipality and Rural Municipality as: "*(The) Municipality and rural municipality should formulate the periodic, yearly, strategic, thematic mid-term and long-term development plans for implementation. The plans formulated should align with the Nepal Government and the provincial government's policies, goals, objectives, time-frame, and process. It should also take into consideration the good governance, environment, and child-friendly and disaster management. It should be inclusive and climate-adaptive*" (LGOA, 2017).

The federal transformation shifted the authority and responsibility to address the climate change issue to MoFE (MoFE, 2018, p. 9). MoFE is currently responsible for the drafting of Nepal's National Adaptation Plan (NAP). While NAPA was initiated to address immediate and urgent needs and priorities, NAP aims to address mid- and long-term goals (ibid., p. 11). That is a crucial point, as the GoN's priority on NAP throughout the reviewing process which was needed due to the federal shift, will delay the reviewing process of other crucial policy documents such as NAPA, CCP and consequently the implementation process of LAPA. It indicates an overall focus on top-down processes over bottom-up initiatives.

The NAPA reviewing process already started in February 2018 but was put on hold due to political issues, as one informant stated (R2K). It was relaunched beginning of 2019; however, it is not the priority of MoFE as it is the NAP setting the broader picture (ibid.). NAP is the overarching framework for NAPA, CCP, and LAPA on the ground. The NAP preparation process is also financially supported by the DIFD, supervised by the OPM and the internal Climate Change Division (ibid.). However, the Ministry itself *"[...] only coordinates; it doesn't have all the expertise; it doesn't have all the resources [...]"* (ibid.). The preparation of NAP aims at two issues: the integration of climate change adaptation into developmental planning, strategy, and policy and to provide a more sustainable environment for interventions to operate (ibid.). Besides, the informant stated that NAP would incorporate an essential detail the previous policies did not: *"Till today, NAPA and such policies are not mandatory, the local governments are thinking like that. They implement or not. That depends upon their context"* (ibid.). Not LAPA itself would be mandatory for the local governments, but NAP. Through NAP, a mechanism to make local governments' own LAPA would be implemented, stated the informant further which aims to increase the motivation of a local government to implement LAPA. However, giving the newly elected governments too much responsibility is also seen critically, as: *"[...] these are new governmental entities. They just have been elected; there is lots of capacity needed within them because for these entities, to be able to handle international financing, they first have to learn to handle the national financing process [...]"* (R24K). The informant further pointed out, that there is chronic under-performance by many *Gaunpalikas*. Many of them are unable to put policies in place and follow the financial requirements the federal government sets. *"What it indicates is that, at this point, there is spare capacity on this local government to spend money in the right manner [...]. It is only the second year for the new governments"* (R24K).

5.2.2 At the District/Municipal level

In this sub-section, I will especially return to the data gathered from NCCSP, as they provide the most detailed description of their LAPA preparation process. Additionally, relevant information from the visited sites in Chitwan (HBP) and finally Ramechhap (MSFP) will be added in that order.

NCCSP - Ghadawa Rural Municipality

In Dang District, I spoke to the NCCSP *Palika*-Coordinator for *Ghadawa* Rural Municipality. The informant's responsibilities are to mediate between the central and the *Palika*-level in terms of LAPA implementation. At the time I visited, six LAPA activities were currently implemented. According to the informant was LAPA in Dang initiated in 2013 and 2014 in only five VDCs. Till 2017 the number raised to eight in total. With the federal reform, the informant criticizes the total restructuring of the financial resources. Was it the DDC before receiving the fund from the central level, it is now the *Palika*-level (R12S2).

The coordination process between the central- and *Palika*-level starts with the planning process of LAPA and is structured according to the seven-step planning process provided by the framework (section 5.1). The planning process starts at the settlement- and Ward-level. The assessment process of household vulnerability is set for two days by the facilitating stakeholders and is then handed over to the Municipality-level. There, the data is re-evaluated and prioritized in terms of its climate-resilient angle. The validation process is set for another three days. Based on that, the Municipality or Rural Municipality shares that process with the Wards, and together they decide on what can and should be done. When agreed on specific activities, the implementation process is carefully coordinated with *Palika*-Officials. The required budget is allocated. NCCSP coordinates regular meetings with the Wards and the Municipality. Coordination with authorities at the provincial level is not required. All LAPA activities in Dang are based on the vulnerability mapping done by the MoE. Whereas the LAPA framework comprises short-, middle-, and long-term goals, NCCSP focused on short-, and middle-term activities only, as for NCCSP “*the goal is to implement urgent and immediate action and urgent and immediate actions are those we define as short-term activities. We just implement urgent and immediate activities*” (R12S2). But due to the federal reform, the whole process was interrupted and NCCSP had to start from the beginning. Along with the shift came the conceptual change from LAPA to Climate Resilient Development Plan (CRDP) (ibid.).

The respondent identifies droughts as the main issue for Dang District. NCCSP only works with the Municipality and other governmental offices for LAPA

implementation. Meetings for LAPA coordination meetings are not held regularly. The final decision to implement LAPA is made at the *Gaunpalika*. However, NCCSP and the chief administrative officer also have influence on that.

A Ward-Chairperson from *Ghadawa* Rural Municipality explained that LAPA activities in his area comprise river-embankment activities and road construction. He joined the selection meeting at the Municipality-level to decide upon the activities to implement. Since many children were unable to go to school during the monsoon (In Dang and elsewhere), it was decided that LAPA should do the construction of the road and bridge, as severe flooding due to heavy rain was identified as the main problem. However, he was unable to describe how the needs and priorities of the communities were assessed. He argued that the communities just did it by themselves and the Ward is just facilitating the process to the higher level. The communities appear to be happy; otherwise, they would not participate, the informant concluded. NGOs did the specified workshops to inform and train affected communities, however, the informant could not identify them anymore (R20S2).

The Chairperson of the *Ghadawa* Rural Municipality perceives LAPA as an organization rather than a framework (R17S2). That indicates the ambiguity as mentioned earlier over LAPA itself and its implementation. However, he describes the LAPA preparation process similarly to the informant from NCCSP. The preparation process elaborated by the chairperson is in line with the process described by ASHA and NCCSP. That indicates that LAPA - at least up to the Rural Municipality level - operates as envisioned at the municipal level. The Chairperson requested LAPA activities to be extended to more Municipalities and Rural Municipalities in the District. That demand would support a shift from a CBA-approach to a broader scale from the donor side.

HBP – Barathpur Metropolitan City

All operating partners under HBP follow different thematic areas each. Four LAPA activities are currently being implemented in Chitwan. As ASHA and NCCSP, the representative from CARE-Nepal claimed to follow the LAPA framework for the preparation process (including the seven steps). The informant's descriptions of the process itself were in line with the information given at the NCCSP-site.

A tool only HBP uses in the preparation process is the Differential Impact Analysis (DIA), which assesses climate vulnerability based on gender, caste, or overall social status. The resulting draft is then being sent to the Ward level. A confirmed draft is subsequently sent to the Rural Municipality. The document is then finalized and re-submitted to HBP, who starts the implementation process by providing technical and financial assistance. HBP categorized their assistance in four sections:

1. capacity building,
2. the adaptive livelihood of vulnerable communities,
3. small-scale construction work
4. supporting GoN by monitoring the joint plan

The federal reform led HBP to review their preparation process and to refocus on landscape-connectivity, following a river-basin approach to involve more Municipalities and their activities in one project. The result is an Integrated Sub-Watershed Management Plan (ISWMP), focusing on adaptation and DRR-activities. The informant stated that activities mentioned in the LAPA framework are included, as LAPA covers climate change adaptation and DRR-activities as well.

However, the very approach is different. He claimed that the shift from LAPA to a broader scale was based on the GoN's request to cover a more significant area with adaptation activities (R23S3). In terms of ownership, the informant clarified that it is of crucial importance for the communities to take ownership, but he also stated that this process highly depends on the commitment of the community. This commitment starts with providing them with the right training at the beginning, which is often not provided adequately. However, the challenge remains in the fact that LAPA is a federal policy. That indicates that ownership is anchored at the federal level (ibid., 27:32). As beforementioned, the same argument is pointed out by the representative of ASHA.

Ramechhap – Manthali Municipality

A different perspective was encountered in Ramechhap. The first respondent was the current FECOFUN-Chairperson. FECOFUN is operating through MSFP and the Nepal Swiss Forestry Program (NSFP). Together, they implemented LAPA in 23 out of 55 former VDCs in Ramechhap. Besides funds from the MSFP and NSFP, the former DDC also provided some funding. According to the informant, this process made it easy to implement projects at the central level. After the federal reform, these VDCs are now split up in 64 Wards. According to the information given, 23 Wards still implement LAPA. FECOFUN acts as a facilitator to channel the budget from the local administration to the LAPA project and to link the communities to the donor agencies. FECOFUN works in collaboration with the former VDC and facilitates LAPA projects based on the needs identified by the VDC. So, far, that is at least partly in line with previous results. The informant gave examples like infrastructural projects, drinking water, or irrigation facilitation. However, according to his statement, the data collection process and meetings which are supposed to be open for the whole community included only teachers and political leaders. Only when asked directly if women and other marginalized groups participated as well, he affirmed, which I interpret as if he does not have sufficient information on that

or is not willing to elaborate. The informant described the process differently from previous stakeholders. He stated that the LAPA plan is made before the data assessment (R6S1). Only then is a decision process initiated. As a data assessment tool, he mentioned a social map of each village, which includes all the assets within that area has. Priorities are discussed in the then following process, and then the project is finalized. The biggest problems described were a lack of participation or disagreement among participants towards LAPA.

In contrast to the FECOFUN-Chairperson, the Social Mobilizer stated that all members of a selected community participated. Apart from a social map, a historical weather map was created based on the elderly people's memories of how the weather shifted. According to the information given, that timeline goes a hundred years back. The gathering now takes place at the Ward-level, and different sectoral agencies joined the meeting for elaborating potential activities and the budget allocation. The duration of the project is set for five years. The process was accompanied by the VDC-Secretary, who received the plan after decisions were made. In line with the statements of the Chairperson, the Social Mobilizer stated that some communities are still practicing LAPA after the MFSP program officially finished. I was not able to visit that community as they were hard to access (section 4.6.) The informant furthermore claimed that the LAPA project privileged FUGs over the community. The matter of ownership is clarified through a management team selected by the community. Because of that, LAPA is, in fact, owned, by the community, said the informant (R8S1).

The current Ward-Secretary of Manthali provides the final perspective from the Municipal-level. The time LAPA was executed in Ramechhap, the informant worked as VDC-Secretary for Phulasi VDC, a little settlement roughly one hour north of Manthali. Since the federal reform, it administratively belongs to Manthali Municipality. There, the LAPA initiating phase began in 2011. For two years, the informant was responsible for the coordination between the VDC and FECODUN and ECARDS. ECARDS initiated the LAPA process, while the VDC cooperated with Community Forest User Groups (CFUGs) and other local groups. The VDC and ECARDS provided funding for elaborating the LAPA plan. The informant's descriptions of how the plan was prepared were very similar to the previous informant (R10S1). Workshops provided the respective community with knowledge on climate change. However, the practical input is questionable, as the informant pointed out. He summarized the implemented activities as *"What the Monkey ate before and what he is eating now"* (R10S1 16:09) and outlined LAPA activities in Ramechhap as sketchy the most. Further, he denied the effectiveness or long-levity of the implemented activities. Technical support was provided by the District Technical Office (DTO) and *"maybe FECOFUN"* (ibid.19:36), whereas ECARDS provided

financial assistance. The VDC itself finally decides if a LAPA project is being implemented or not. It is then monitored three times a year by the VDC. It was criticized that the budget was always too short, which is why people's needs could not be appropriately assessed. It also limits the scope of capacity building activities.

5.2.3 Implementation at the community level

Eight interviews in five different Forest User Groups (FUGs) were conducted (see *table 1*) to elaborate LAPA implementation at the local level. All members gained their living from subsistence agriculture. In two FUGs, the men migrated to another country for employment, sending remittances (R15S2, R22S3), whereas other employment within Nepal was found in the case of two other FUGs, also by men (R16S2, R8S2). All interviewed communities complained about unusual weather shifts, droughts and a lack of water for irrigation and drinking as well as unusually heavy rain during a period defined as the dry season. The heavy rain is followed by severe flooding, hence damaging infrastructure and farmable land.

All interviewed communities did receive regular development aid at some point. The focus group discussions with R7S1 and R9S1 were conducted with mixed genders. From R15 on, male and female informants were interviewed separately, since female participation was barely recognizable before. As the coordination between Ward and community turned out to be essential for the preparation of the LAPA plan, I asked every FUG how their contact to the Ward is and what kind of services they receive from the Municipality. In that way, I tried to get an impression of how the community perceives the authority and how effective the mechanisms described at the national and municipal levels practically are. The answers were quite different: While the two FUGs at the Manthali and Barathpur Municipality stated, that they could easily reach out to the Ward and Municipality if needed. The FUGs in Ghadawa heavily criticized the Ward and Municipality, stating that the authorities would not believe in the community's good practices in maintaining the forest and are not service-oriented anymore like before the election of the local governments (R18S2). However, their reachability was described as adequate. At the HBP site, informants stated 'a very good' relationship with the Ward and Municipality. According to them, they visit the community regularly, and when needed.

MSFP-Ramechhap District

A significant gap between the LAPA process description given at the national and municipal level and the communities interviewed was sensed during this study. In Ramechhap for example, did the officials (in that case FECOFUN) register the project officially (R7S1). That process was running as envisioned in the framework.

Each of the 14 involved FUGs was represented by one or two members, male and female. Together, they identified the issues they are facing. *“However, the project just ran for a short period of time, which was not too effective. After closing the project, the final report was missing, and until today, there is no information”* (R9S1). The FUG tried to reinitiate the program by continuing by themselves and reaching out to the person in charge. However, they were not successful. According to the plan, it was supposed to run for two years, but only for one year, it did smoothly. The project was supposed to be implemented by MSFP in cooperation with the SDC.

The same FUG claimed to have received a beforehand orientation program together with financial support. The Group did not clarify from whom. A monsoon-table was used as a tool during the assessment. Like FUG R7S1, FUG R9S1 stated that the process was somewhat unofficial practiced. However, the intervention aimed at conservation and afforestation, as well as providing drinking water and growing unseasonal vegetables. They strongly argued towards the local government to reimplement LAPA.

NCCSP-Dang District

The women interviewed at *Simaltara* FUG (R15S2) stated that they think LAPA is an organization. LAPA is implemented at that site by NCCSP. The responsible *Palika*-Coordinator (R12S2) was joining the interview. In a previous interview, he too stated that the communities perceive LAPA as an organization; in that case, they referred to NCCSP as LAPA.

According to the group’s statements, they did not participate in any orientation or training that took place during the assessment. One female respondent stated that she got informed about the project by her husband, who participated (R15S2). They did know, however, that during that process the Municipality Chairperson and Secretary were present. Knowledge of climate change or information on any other process was lacking. On the other hand, the male respondents of the same FUG showed more knowledge on climate change and its effects but denied having participated in any planning or implementing process of LAPA. They claimed they have only been informed about LAPA processes at their community and argued that they would only participate if the Municipality insists. However, shortly after they expressed their wish to participate in future processes.

At the second FUG, knowledge on climate change was expressed by saying: *“In the year of 2001/2002, we did not use the mosquito net, but now the mosquitos are more. Later, we used the mosquito net between May and June only but now between March-April. So, we feel these changes and realize that it is happening due to*

climate change"(R18S2). The same group stated that the Municipality implemented LAPA at the FUG. Due to financial shortages, the plan was not finished. Later, however, it was supported by the Municipality and DDC with the help of NGOs and INGOs, but, remained an action paper only. Workshops were provided by the District Forest Office. Two other LAPA projects have been implemented (see section 5.4). The assessment was executed by equal participation by women and men according to their memory. When I asked if government officials were present during the preparation, they said: *"Government officials also used to be involved or participated in such events, but their participation is just for the name. They are not as serious as an NGO or INGO [...]"* (ibid.). At the time of my visit, I could only interview one woman at that FUG because all the others went to the forest to work on a fire prevention line. The men claimed to have informed and asked them to participate.

HBP-Chitwan District

The last FUG interviewed, however, was able to explain LAPA planning and implementation processes a little bit more detailed. The informant stated that the process started in 2012. During the process, representatives from groups were present, they stated. HBP facilitated the identification process of the communities most climate-vulnerable areas and related workshops were organized and held (R21S3). The significant difference between LAPA sites visited in Ramechhap and Dang is HBP's project's scale. It still includes LAPA activities, but the project itself is named Integrated Sub-Watershed Management Plan (ISWMP) (ibid.) HBP reviewed their LAPA activities independently in 2017 and adjusted their approach to the local government's plan. The female group complained about a lack of support from the rural municipality; instead, their demands are met by the FUG itself. Besides, the informants denied detailed knowledge about LAPA; still, they knew that the Municipality initiates it. During the interview, they repeatedly confused CAPA³, and LAPA as the activities they did were quite similar. It was CARE Nepal, FECOFUN and WWF facilitating and the FUG itself. An executive planning book is containing all the assessed needs and priorities. It was claimed that during workshops, overall more women than men participated. *"We received a variety of training regarding climate change. We came to know about the effects of climate change. For example, if climate changes, it rains heavily, if it is a sunny season, then it burns like a fire — that*

³ Community Adaptation Plans (CAPs – CAPA) is another community-based approach implemented in Nepal. It is based on an individual community's needs and priorities to adapt to climate change. CAP(A)s are completely bilateral- and multilateral funded projects. Paudel et al., (2013, p. 1) conclude, that CAPs are somehow detached from local development planning as no official agency acknowledges CAPs in the planning process. Consequently, no sufficient mainstreaming can be done and CAP(A) interventions are perceived as "business as usual" projects.

type of knowledge we received from the workshops and training. I have understood a lot but cannot explain it better." (R22S3).

5.3 Participation at the local level

Local participation did not take place to the extent envisioned in the LAPA framework and as described by informants at the national and municipal levels. As elaborated in the previous chapter, all stakeholders at the national and municipal level uphold communities' participation as the fundament of LAPA preparation and implementation. The inclusion of women at the selected sites was not as successful as described either.

Most surprisingly is the fact that aside from a lack of participation, satisfaction over the projects implemented by NCCSP and HBP (R15S2, R16S2, R18S2, R19S2, R21S3, R22S3) was expressed by the informants nevertheless. When asked if they would like to be more integrated into the LAPA preparation process, all Focus-Groups affirmed. One male respondent-group, however, made contradictory statements. On the one hand, they stated that they would only participate in information events if the Municipality would demand it, whereas, on the other hand, they complained about not being fully integrated into the planning process (R16S2).

At the **MSFP** sites, participation was barely existing as there was no project to participate in. Respectively, initiation programs seem to take place but were not followed up. One FUG claimed that FECOFUN stopped every activity after the earthquake in 2015 (R7S1).

At the **NCCSP** sites, female respondents stated that they were not aware of any activities to participate in either. Other respondents of the group stated that some women of the community might have participated at some point, but they were not exactly sure of it at all. Furthermore, they argued that due to gender-based roles, they would not have had the time to participate: *"We need to do all the households work from the morning to evening by taking grass and fodder from the jungle. So, we do not know about this (climate change)"* (R15S2). LAPA Projects implemented in that FUG encompass a dam for flood prevention and irrigation, which was about to be finalized at the time I was there. Based on the information given, no assessment processes preceded the implementation process. As stated at the beginning of this section, the male FG did not participate either. However, they described that government officials, i.e., Ward-Chairperson and Municipality-Chairperson, came to their community to discuss the dam and the canal. According to their description,

the fact that they received a dam and an irrigation canal created conflicts with the neighboring community (just across the river).

That raises several questions. First, and based on the information given by R18S2, the gap between municipal and community level might be caused due to the lack or unwillingness of local politicians who do not fully engage in the process and act according to their role. The second FUG interviewed who cooperated with NCCSP broadly described their participatory process as follows: *"While preparing LAPA [...] we involved men and women just about equally. During the meeting at the community level, around 30 people gathered, of which 12 were women. Today also we informed the women, but due to unusual weather and thunder..., also this is the time of shifting the crops. The women are not participating (today) due to this. Overall, we involve women in the meetings as well. I think you are asking this question because today the women are absent"* (R18S2). The respondents further stated that FECOFUN and the District Forest Office facilitated training and workshops.

At the **HBP** site, the male Focus-Group - including the Community Chairperson -, stated, that participation was realized according to the LAPA framework. The preparation process was facilitated by HBP. Outstanding at the HBP site are the statements from the female respondents: One informant claimed membership and therefore, involvement in LAPA. However, she did not remember what LAPA is. However, all-female informants used the term NAPA/CAPA/LAPA interchangeably. They also stated to have worked on or participated in two LAPA projects, one at the community- and one at the Ward-level. Additionally, a planning book for LAPA activities was the result of the community participatory process. In that book, all needs, and issues of the community were identified. The woman furthermore stated that this process involved women and men equally, sometimes with more women than men involved and received training and workshops.

5.4 What types of projects are implemented?

Section 5.4 elaborates on the type of projects being implemented at the sites visited. In doing so, I aimed to extract activities that would count as regular development aid (such as infrastructural work) and adaptation-projects (such as forest conservation).

As claimed at the **MSFP site**, the planned activities focused on forest conversation and afforestation, drinking water and unseasonal growing of vegetables. However, they were never fully realized at the side of R7S1. Out of two years intended, the implementation only took place for one year effectively at the site of R9S1.

Surprising was the fact that one respondent stated that he did not remember the kind of activities implemented. Like the first FUG, the intended project aimed to focus on the unseasonal growing of vegetables. According to their statements, they are still practicing that. However, it remains pugnacious if such activities can count as an adaptation as defined in section three and the LAPA framework. Other focus areas were forest conservation and afforestation.

As illustrated in the previous section, the communities at the MSFP site were unsatisfied and disappointed with the ‘outcomes’ of the LAPA initiation phase. Despite, the little knowledge they had about LAPA itself, they were aware of what the projects aimed for and unanimously agreed on its potential benefit for the community and the environment. Also, they clearly expressed their wish to participate and contribute to potential future LAPA projects.

A similar mood was sensed at the FUGs under the **NCCSP-LAPA** process. However, the significant difference was not only the quality of implementation but also the support they received from other NGOs in terms of regular development aid.



Figure 3 - Destroyed dam built by NCCSP under LAPA; Irrigation canal under construction, Simaltara Irrigation Canal User Community User Group (Photo: Gerrit Hofert)

Shortly before I conducted the interview, the road construction from *Ghadawa* Municipality to their community and further was finished, providing surrounding communities with better access to markets and services. A significant disparity in the perception of the road was sensed between the female and male Focus Group. The men stated that the construction of the road was a mistake due to the down cutting of trees for road construction since it will negatively affect the quality of the soil. As the road goes along a river, they said, the risk of a flood is now increased and thus, they are now even more vulnerable to hazards. That puts their scarce farmable land additionally at risk. Another project they were involved in was from the Nepal

Red Cross Society. That project provided a drinking water facility recently (R16S2). With LAPA, the FUG built a dam to prevent flooding; however, the dam just held for a month (R15S2) and was destroyed within the first flood after it had been finished. (*figure 4, left*). The time I was there, it was still unclear when, and if at all the dam will be repaired. The irrigation canal (*figure 4, right*) is the second LAPA project the community is currently implementing. The canal follows the river line and is located about two meters above the river basin. Consequently, there are no benefits so far. Both female and male informants confirmed that, however, both declared that the dam and the canal are needed to improve their access to water.

The situation of the second FUG (R18S2, R19S2) visited under NCCSP was comparable to the first one. They received much support from NGOs doing regular developmental work. Also, the community had been equipped with a drinking water facility by the Nepal Red Cross. With the help of another HBP-project, they built two fresh-water ponds in the name of CAPA (*figure 5*). The community complained about an increased mosquito problem, which seems to be connected to the ponds because they are too close to their settlement. The flood-prevention dam (*figure 6*) consists of three elements up- and downstream. However, its effectiveness seemed questionable to me as it was built on a location where that river previously caused severe flooding dried out about three years ago, according to the statements of the FUG. Both Focus Groups (male and female) stated that they feel much safer since the dam has been built and that it is strongly needed to prevent future flooding (R18S2, R19S2).



Figure 4- Freshwater pond built by HBP-CAPA, Shree Kulpani FUG (Photo: Gerrit Hofert)



Figure 5 - Flood-prevention dam, NCCSP-LAPA, Shree Kulpani FUG (Photo: Gerrit Hofert)

Still, satisfaction was lower than in the previous FUG. According to the informants, they feel treated disrespectfully by the authorities, as they claim they do not take adequate care of the forest. During the interview, I sensed rising tensions the longer the men spoke about it. I assumed that based on the tune of their voices as well as certain gestures. Moreover, as elaborated in the previous chapter, they preferred to be less depended on external funds for implementing LAPA. Consequently, they agree with LAPAs intentions, yet, criticize the implementation process. Due to the lack of funding, they argue, only a few of originally more LAPA projects in the region have been finalized (R18S2).

In Chitwan, at the **HBP site**, the community did receive regular development aid along with their involvement in LAPA/CAPA, done by local NGOs. Apart from that, only the HBP partners (section 5.1.3) are active in that area. The mentioned project comprises of river embankment activities and a freshwater pond for the conservation of the water resources (R21S3). Activities in line with the LAPA framework were also mentioned. However, the significant difference is that LAPA is not implemented anymore since the reviewing process after 2017. Since then, HBP follows the ISWNP to involve more municipality affected by the same problem, under the overarching local government's plan (ibid.). It needs to be highlighted that it was at the HBP site where the female Focus Group stated that they recognize and acknowledge the improvements of women's rights and their improved role within the society since HBP started. They also suggested some improvements, like a proper room for their meetings and better incorporation of their suggestions (R22S3). Noticeable, despite not having received training and workshops to the full extent, they were the only ones who pointed that out. Additionally, they mentioned to be satisfied with the projects implemented within NAPA/LAPA/CAPA as they were somehow involved, and the activities turned out supportive of their livelihood.

6 Discussion

This section links the empirical findings to the concepts, theories, and literature highlighted in section 3. The resulting discussion elaborates on the practical role of local participation in climate change adaptation processes on the example of LAPA in Nepal. Additionally, the relevant literature on climate change adaptation, community-based adaptation, and participation will be referred to. That way, the subsection responds to the research questions providing in-depth answers to each. The chapter concludes with a summary of the critical points of the discussion.

6.1 How LAPA is implemented across different political levels: federal, municipal and local

6.1.1 *The difficulty of mainstreaming local realities for climate adaptation purposes*

The differences between the three large-scale programs have been elaborated in a so-far rather critical way. That critical perspective is strongly needed since the LAPA framework is a national guideline to mainstream local climate realities and corresponding adaptation activities into existing local-to-national development planning. Hence, similarities within the preparation process of different LAPA projects are to expect. It has been pointed out that the LAPA framework offers a range of participatory tools and methods to involve the local population and assess their needs and priorities. The three large-scale programmes analysed (MSFP, NCCSP, (ASHA), and HBP) represent a range of stakeholders focusing on different areas within the six thematic areas identified in the NAPA (see section 2.1.3) using the national LAPA framework. Based on the stakeholders' focus a certain set of tools and methods to assess specific climate vulnerabilities of a community are used. (MoE, Climate Change Vulnerability Mapping for Nepal, 2010). Consequently, a certain difference between the projects implemented at the sites visited was to be expected.

According to Mimura et al. (2014, p. 873), heterogeneity within adaptation is based on the context-specific nature of adaptation, which includes differences in resources (accessible and available), values, needs and overall perceptions within the society. However, the results show that the heterogeneity within LAPA projects did not result in the context-specific nature of adaptation alone. Instead, the identified

heterogeneity has been traced back to significant differences in the involvement and participation of affected communities on the one hand, and the use of context-specific tools used by involvement of multilateral development agencies and international organizations not mentioned in the LAPA framework. The Differential Impact Analysis (DIA) used by stakeholders of HBP in Chitwan district aims identify contextual climate vulnerability on the household and individual level to acknowledge the socio-economic dimension of climate vulnerability. DIA is also used to address social discrimination based on gender or other factors with regard to climate vulnerability. ASHA claims to realize another 'enhanced' version of LAPA, by explicitly focusing on the interaction of local knowledge and experience with scientific meteorological and geological data available. That way, the level of climate vulnerability of a certain geographic area is assessed, and a suitable adaptation project in close cooperation with the communities settled in that area elaborated. These two examples represent the difficulty of mainstreaming projects under LAPA into the national-to-local development agenda. Not only is the data set available to calculate reliable forecasts insufficient (R24K), but the different methods and tools used create a different set of in-depth outputs.

Additionally, the communities were not as involved in the preparation and implementation process as envisaged in the LAPA framework itself and as described by relevant actors at the municipal and federal levels at all sites visited. That emphasizes the scholarly critique of LAPA being as top-down as other developmental activities as it indicates a clear lack of considering environmental (contextual) vulnerability. When asked how satisfied the communities are with the outcome of the implemented projects, general satisfaction was expressed. The projects seem to address their basic needs and priorities and in relation to water scarcity and floods, according to their own statements. However, if connected to the theory (3.1), projects such as dams and water canals need to be seen as corresponding to climate vulnerability from the end-point (outcome-) perspective only.

On the other hand, the same members of the communities would prefer to be more integrated into the LAPA preparation process, however would develop similar projects to the ones implemented after all. The data suggests – in line with Regmi et al. (2014) – that local participation is not implemented to the extent envisioned because the LAPA framework fosters a top-down approach rather than connecting the bottom-up with the top-down (ibid.). It is the newly elected local governments (*Gaunpalika*'s) who decides upon the realization of a LAPA project, not the affected community itself. In return, local leaders tend to incorporate affected communities as labour only, but not in the planning and preparation process itself. That effects the outcome of the very project as it ignores the local perspective on climate vulnerability to an extent.

The data further suggests that the top-down tendency is not only because LAPA is first and foremost a national guideline, but also due to its high dependency on and involvement of a wide range of governmental and non-governmental actors, especially in terms of funding (R3K, R4K, R11K, R24K). That dependency turns out crucial for sustaining LAPA. As Mosse (2004) argues, it is that dependency that creates gaps between policies and their intended outcome, because it reinforces the existing development hegemony and consequently, power structures, executed by mainly external stakeholders (ibid., p.643). These power structures but hinder addressing contextual vulnerability fully. The projects visited for this research either focused on development initiatives alone or on ‘environmental-vulnerability’ (section 3.1).

Finally, this study finds itself in an ambivalent position. On the one hand, Nepal has made significant process towards an environment supporting community-based activities. One crucial transformation was the shift from a unitary to a decentralized federal system in 2017. Along came the revision process of key governance documents (NAP, NAPA, CCP, LAPA, LGOA), so that the policy-setting formally correlates with the setting needed to effectively establish CBA. However, these bureaucratic processes are yet to be practically learned by all actors from national-to-local. As one informant stated: *“Whatever change [...] we might have seen [...], we are not [...] in the position to say, that these are the changes that we have received. We are [...] just (a) kid right now, we are just born. People don’t know their roles and responsibilities if you ask them. There are lots of responsibilities they have to figure out, they have to, you know, they have to perform but they are not doing and if you go and ask them ‘what is your role?’, they don’t have any information”* (R1K). How beneficial the decentralization will be for the people of Nepal and CBA activities in general, depends on how the capacity gaps within involved stakeholders are addressed in the near future.

These capacity and knowledge gaps create a significant level of instability in the LAPA preparation process at all stages and also result in a lack of incorporating local people. On the other side, if local participation is realized, the results show that its likely results in regular development activities only, hence likely to address climate vulnerability from the end-point perspective only. It remains therefore a key challenge for future CBA projects to combine developmental and adaptive projects. Huq & Ayers (2008, p. 52), together with Salzmann et al. (2016) and Reid et al. (2009, p. 13) come to the same conclusion, criticizing the LAPA process for having a rather short-term developmental character only.

McNamara & Buggy (2016) conclude that three types of adaptation need to be addressed to make adaptation work. In addition to community-based adaptation,

infrastructural (concerning assets and technologies) and organizational adaptation (institutions and policy) need to be initiated as well. In that way, McNamara & Buggy pick up the importance of addressing the underlying causes of vulnerability as well. I argue that LAPA in Nepal does address all, but that the organizational adaptation in terms of the policy is most distinct. The main challenge remains, that institutions must be inclusive, transparent, and accountable at all levels (Regmi, Star, & Filho, 2014; Drolet, 2012).

6.2 Local participation within climate change adaptation

6.2.1 *Participation within CBA and LAPA*

In section three, I referred to Lake & Zitcer (2012) and Ribot (1999, 2002, 2008). The scholars pointed out that CBA emphasizes local (public) participation in any decision-making process to enhance the intended outcome. Participation involves local people as well as other involved stakeholders. In that way, the CBA aims to encouraging local democracy by acknowledging local people as active agents to potentially foster their resilience and adaptive capacity from within (Ebi & Semenza, 2008; Gidley, Fien, Smith, Thomson, & Smith, 2009). The focus on local community's needs and priorities enhance a project's sustainability and longevity. The results have but shown that this is not taking place in Nepal for several reasons. Communities interviewed were not given the chance to fully take part in the process of diagnosis, identification and prioritization, development and implementation of adaption activities (McNamara & Buggy, 2016). But for local people to become active agents, close cooperation with involved stakeholders is essential to cherish bottom-up approaches (Agarwal, 2010; Agarwal et al., 2010, Agarwal et al., 2012; Nagoda & Nightingale, 2017). However, this study find that involved stakeholders, especially elected local leaders did not act responsive to the local wish for more participation within the bottom-up approach of LAPA.

As highlighted at the beginning of section 5.2, the three different programs pursued different models at large, i.e. focused on different sectors of LAPA, had different access to financial resources and, finally, the scale of implementation differed. Especially the HBP site in Chitwan District turned out to go beyond LAPA overall. On the other hand, and in line with a critical perspective on local involvement in climate change adaptation processes, I referred to Burton & Mustelin (2013). They argued that local participation in climate change adaptation can be somewhat counterproductive. One of the scholars' key-argument, however questionable, is the difficulty of achieving full local participation in general and especially in the context

of climate adaptation. In the context of Nepal, that difficulty does emerge due to the lack of the responsiveness of local leaders and due to the lack of involved institutions to incorporate the local perspective and execute LAPA as envisioned in the national framework. Additionally, the still ongoing structural transformation since the federal reform in 2017 is still hindering the effective incorporation of local perspectives as many of the newly elected governments do not seem to know how to materialize public opinions, nor their own new responsibilities.

However, several informants expressed a strong optimism towards the future benefits of federalism in Nepal. Processes are still to be learned and internalized. Thus, representation and accountability as defined by Ribot (2008, 2013) and Fischer (2016), is practically not yet achieved. Although the *Gaunpalikas* are given discretionary power through the federalized autonomy in fiscal, juridical, and executive issues (Ribot, 2013). It turned out problematic that the selected *Palika*'s can decide to or not to use LAPA in their administrative area based on their political priority. Therefore, the aim of mainstream climate change adaptation is missed out. It was claimed at the national and municipal level that affected communities were gathered for the LAPA preparation process. Moreover, it was claimed that adequate training and workshops to enhance the community's capacity and awareness have been provided and that based on that, the project was agreed upon. However, this study found that neither local leaders' active involvement in the LAPA preparation process at the community level was recognized by interviewed communities, nor that training, and workshops have been as inclusive, participatory and extensive as intended.

Ribot (1999, 2002) argues that the integral component of adequate representation is local leaders' responsiveness and accountability, not only in a democratic sense but also in relation to CBA. This study found that these actors are responsive and accountable, but not necessarily towards the local population. Does the practical initiation of LAPA as a CBA activity count as being responsive to the local need for adaptation? By responding to the people's need to adapt their livelihood to climate change, it does of course, but not in a democratic way. It can be argued that these leaders are responsive by chance, in being pushed in that direction by external (donors) and top-down preferences (decentralization). Hence, the implementation of LAPA itself cannot count as being democratically responsive towards the population. Meaningful discretion, in terms of a mechanism of accountability, is only formally given, thus is not incorporated as envisaged (Ribot et al., 2008; Ribot, J. C., 2013; Fischer 2016). The data suggests that although the Ward- and Municipality Chairperson seem to be within reach for the community's interviewed and that the people are somewhat satisfied with the outcome, the communities' access to services is limited. That causes a scenario in which the local leaders do not seem to be as responsive to their people as generally assumed in CBA and LAPA in particular.

Moreover, the involvement of the Ward- and Municipality-Chairperson in the LAPA preparation process - as the communities elected representatives – it does not seem to be of importance for LAPA preparation. R16S2 stated that the local politician's involvement is just for the paper. The local participation seems to be limited to receiving workshops and training on climate change and contributing to the vulnerability assessment but based on the data; they do not seem to be involved in the elaboration of the projects itself. Hence a crucial piece for a bottom-up approach is missing. It can be argued that the community's participation in training and workshops is a step in the right direction. However, the data additionally indicates that only a few members of each community joined. The majority, especially women, were either unaware of the event or did not participate. The HBP site in Chitwan is an exception as it was confirmed that on average more women than men did join. However, local inclusion is at stake as the quality of inclusion is lacking. The knowledge transfer as suggested in the literature is not taking place; thus, a crucial component is missing which indicates once more, that LAPA enforces a top-down approach.

Besides the fact that the LAPA framework does offer a range of participatory tools and methods, it does not explicitly define participation. The framework does point out that with the use of the tools and methods mentioned, meaningful and active engagement and participation is given. With reference to section 3.3.1 of this study, it can be concluded, that the inadequate definition of participation is a major critique-point. The consequence is, that participation is open for interpretation by implementing stakeholders. On the other hand, formal conditions for CBA and LAPA to operate as envisioned are met, whereas, on the other hand, the communities were practically not participating. However, some communities stated that they feel safer since the flood-prevention dams were built and better access to drinking-water provided (R18S2, R19S2, Shree Kulpani FUG). Participation and involvement, nevertheless, seem to be different narratives at all LAPA sites visited. Participation is, according to the data, given when the local community joined some training only. However, involvement in elaborating the response to climate vulnerability is not given. Instead, the LAPA stakeholders agree on a specific project at the municipal level. Given the data conducted in the interviews R15S2, R16S2, R18S2, and R19S2, the communities are practically involved in the implementation of LAPA in the construction part as labourer only.

Furthermore, the country's eight years of practical experience in LAPA preparation has shown, that the community's preferred projects can be defined as regular development work, lacking a climate angle (R1K, R24K). That is in line with (Ouma, Dieye, Ogallo, & Olang, 2018), as they argue, that adaptation to climate change is

increasingly perceived as a development issue given its severe effects on various socio-economic factors, hence, highlighting the difficulty of addressing contextual vulnerability. In other words: The effects of climate change in LDCs expose even more the crucial need for basic developmental improvements, which in turn leads to the perception as climate change being just an add-on to already existing socio-economic problems.

Adequately addressing contextual vulnerability means to take a community's need for basic developmental and social needs (the underlying causes of vulnerability) into account as well. Comparing all implemented projects visited for this research, the communities need for complex adaptation was not realized, as all projects seem rather short-term initiatives. On the other hand, short- and middle term projects were for example the focus of NCCSP and their LAPA implementation in Dang District. However, and although the vulnerability mapping done by the MoE is based on a definition of vulnerability from the starting-point perspective (contextual vulnerability), projects on the ground clearly lack that depth.

Nevertheless, the communities spoken to express a strong wish to be more involved in LAPA. The identified shift from community-based to river-basin approaches must be seen as ambivalent. On the one side, does a combined approach have more chances to address the complexity of climate change. R5K highlighted that the source-protection of any natural resource needs to be considered and ensured in LAPA. The shift to CRDP and ISWMP indicates that importance on an even larger scale. On the other side, does a broader scale significantly complicate the participatory component in general of any CBA and LAPA activity.

6.2.2 Participation in future LAPA projects

A sub-watershed approach comprises every community dependent on a specific water resource, which can be several. Also, that comprises several Wards and Municipalities as well, indicating a lengthy administrative process if the beforehand highlighted heterogeneity in climate vulnerability is considered. In the case of ASHA, the regular preparation process for one LAPA project takes one year, which allows assumptions on how long the incorporation of multiple assessments would take.

As the data revealed is local (public) participation with regard to the LAPA preparation de facto not guaranteed at the community-level. Consequently, a community-based approach based on the criteria elaborated for effective democratic (public) participation (section three) is doubtful to take place within a river-basin approach. The question now is, does it need to? Burton & Mustelin (2013) and Reid (2016) consider participation as crucial, yet, hard to fully be considered in the context of climate change adaptation due to the topics' complexity. The topic's complexity is

but enhancing due to the still weak (but evolving) political system of Nepal. Its bureaucratic structures are developing, yet, clear competencies do not seem to be widespread. The newly elected local governments are in the middle of the learning process. That was pointed out by several informants. The ISWMP implemented by HBP claims to have incorporated the LAPA framework by and using its participatory tools to some extent. However, the basic approach is different. Based on the information gathered, the HBP managed to generate the highest satisfaction within the community compared to the other sites visited. The female focus group stated significant improvements for women. Thus, it is the HBP site that managed to execute CBA and LAPA best in the context of this study. Several conclusions can be derived from that finding. First, drawing back to section 2.3 and the fact that climate change severely threatens the water security of the populations living up- and downstream of rivers originating in the HKH, a significant adaptation focus should lie there. Secondly, all FUGs interviewed mentioned water scarcity as one of their major threats. Moreover, thirdly, the donor-driven shift from LAPA to ISWMP and CRDP indicates that, despite being national legislation, the donors (DFID) parallelly support projects emphasizing LAPA-incorporating approaches on a different scale, thus weakening LAPA's nation-wide claim. It furthermore shows that it is the external donors who have the power to decide about the future of LAPA.

Referring back to section three, the 'enhanced' LAPAs developed by NCCSP and HBP are but acknowledging another crucial aspect of contextual vulnerability, by incorporating water as an ecosystem service (Reid, 2016). As all communities visited identified water scarcity as one of their major problems, projects like the ISWMP and CRDP take the complexity of water availability and access into account. In section two of this research, I mentioned the risk almost two billion people face, if the fresh water supply from the Himalayan Mountain Range is decreasing. Hence, HBP and NCCSP practically striving for more longevity and sustainability of their projects. However, that raises the question of how participatory large-scale projects like the ISWMP and CRDP can actually be. If the involved stakeholders cannot implement local participation at projects at the very local level, how can they assure that on broader scales? Additionally, considering the bureaucratic expenditure, it took ASHA for example (R5K) one year to assess and elaborate a single project. In a more complex scenario, it would consequently take significantly longer. Affected communities would need to wait much longer for projects being elaborated and finalized and the datasets required would not only involve more costs but also would increase the overall preparation time.

6.3 How LAPA addresses climate vulnerability

6.3.1 *The difficulty of not addressing the underlying causes of climate vulnerability*

As shown throughout this research and in line with the literature: it is hard to differentiate between climate change adaptation activities under LAPA and regular developmental work. The projects implemented at the sites visited seem to address the people's vulnerability to climate change from a short-term perspective, hence, lacking a substantial part of what LAPA aims to do: Elaborating sustainable adaptation options that take local people and the environment into account. For example, the flood-prevention dam build by NCCSP for the *Shree Kulpani* FUG that collapsed just months after finalization. The dam built to protect the *Rani Khola* FUG from floods did not seem to have future use, as the river it was built on did disappear some years ago.

However, the community member interviewed stated that if they had the chance to participate fully, they would prefer more projects with infrastructural improvements. Due to insufficient training about climate change and its impacts on the ground, climate change remains a rather abstract phenomenon for many members of the communities. Thus, climate change adaptation and LAPA remain an add-on to already existing development work as claimed in the literature (Reid et al., 2009, p. 13; Reid & Huq, 2014). Consequently, LAPAs' aim to mainstream climate change adaptation is not achieved. The communities nevertheless are very aware of their changing environment and its effects on their livelihood. Throughout the research, water scarcity was the major topic brought up by the communities themselves and by actors at the municipal and federal level. From that perspective, projects initiating a shift in vegetable growing for the communities only, appear vague and too one-sided.

Moreover, one informant stated that LAPA needs to move away from highly localized interventions: “[...] now I think I would encourage them (the LAPA-stakeholders) to do more watershed-level interventions. You know, so that different kind of problems are addressed at the same time. In the past, what has happened was [...], you want to build a new drinking water project in this community, but the source of the drinking water was in the other community. So, there was always conflict. It didn't capture that very well. So, if I am drinking water from that community, they are not being concerned, but I am more in focus. So, if the water that I am drinking, I mean, make that water more climate-resilient, you have to address the drinking water source [...] as well. The community must be supported as well to preserve the water resources there” (R24K). First steps to do so are already done: NCCSP and HBP move away from projects focusing on the local level only. Instead, the ISWMP

and CRDP address water scarcity on a supraregional scale. By recognizing water as one of the most urgent issues to address, both stakeholders acknowledge contextual vulnerability as described in section three into account while maintaining LAPA activities at the community sites. According to their own statements, projects at the local level still follow the national LAPA framework (R21S3, R22S3, R23S3). It remains but unclear to what extent, if at all, local participation is realized at the supraregional level. The informants did not provide further information on that.

However, as observed throughout this research, LAPA projects did entail developmental aspects majorly. Ouma et al. (2018), together with Reid et al., (2009, p. 13) and Reid & Huq (2014) highlight the fact that climate change adaptation project often shift to being more developmental than adaptation. But what if the improvement of basic infrastructure or similar projects can help to decrease a community's climate vulnerability by increasing their life quality? The projects visited and analysed for this study but showed that it is more complex than that.

On that behalf, ISWMPs incorporating adaptation-activities can to be more effective – because more far-reaching- in addressing both regular developmental work and climate change adaptation. However, local (public) participation remains fundamental at all stages, and the Nepalese political structure is slowly evolving towards a full internalization of local democracy. However, that process takes time, maybe more time than climate change allows.

7 Conclusions

The final section of this thesis consists of a summary of the key findings this study elaborated based on the research questions (section 1.3). Furthermore, I will explain how this study is tying on existing knowledge while also drawing back on the inherent limitations based on the chosen research design and methodology of this study. The final part of the conclusion consists of suggestions for further research on that topic.

Nepal pioneered in the field of community-based and climate change adaptation with the initiation of LAPA. However, the country is still – after eight years – learning to implement it. Climate change is a serious threat to the livelihoods of the Nepalese people, but as an LDC, necessary developmental activities concerning food security and poverty reduction are justifiably the preferred activities. Hence, climate change adaptation projects tend to address more the developmental aspect of adaptation as this includes the underlying (contextual) causes of climate vulnerability. That is not only visible in the foci on vulnerability reduction and livelihood improvement of engaging communities but also reflected by communities interviewed for this study.

7.1 Summarizing the key findings

The results raise the question of how participatory CBA projects can be to reach their intended goal, suggesting, that LAPA projects are basic developmental improvements like infrastructure and access to basic needs such as health or education only. This study finds, that people in poor rural environments tend to address problems they experience and miss in their all-day life instead. That is in line with Regmi, Star & Filho (2014), Ouma et al. (2018), Reid et al. (2009) and Reid & Huq (2014) and further more draws back on the importance of incorporating the underlying causes of vulnerability as well, as discussed in section three.

Although CBA and LAPA are conceptionally aligned to incorporate diverse local needs and priorities, these concepts but aim to focus on environmentally friendly projects to provide affected communities with tools and knowledge to adapt to climate change. These concepts furthermore assume that climate adaptation projects and ‘regular’ developmental projects can be aligned. Yet, as shown, only the communities interpret LAPA as a developmental and climate adaptation project. Other

stakeholders at higher levels strictly distinguished between a LAPA project and developmental work. However, CBA and LAPA are – both – conceptualized to address vulnerability from the contextual point of view. In practice, LAPA fails to do that.

Furthermore, this study finds that the LAPA preparation process in Nepal first follows a top-down manner, followed by a (somehow) bottom-up approach at the local level, but as it is the Municipality who finally decides if a project is implemented or not, it is top-down in the end. Besides, a long-term perspective for LAPA is not given. That is because it is external donors who are significantly influencing the LAPA process in Nepal. Hence, and because of the federal shift, LAPA projects remain short-term. An additional aggravating factor is the lack of a coordination mechanism between involved stakeholders at all levels.

However, LAPA is notable as the foremost attempt to practice CBA on a national scale. The concept of LAPA finds itself in a difficult position, caught between the pressures of bureaucracy and donor agendas (notably DFID). That causes LAPA's full potential to remain unfulfilled. There is little participation in practice as the elected local leaders do not act responsive to their people. It is furthermore the decisive power of the *Gaunpalika*'s over the implementation of LAPA which hinders the local people from becoming active agents. The conditions needed to provide an adequate basis for more responsive and democratic governance are not fully implemented. As described in detail, there are, however, some positive outcomes. But the full potential of LAPA is yet to be exhausted.

The most promising development to improve the implementation of LAPA is Nepal's federal transformation. The federal shift means that power is now being granted to institutions with elected authorities rather than bureaucrats. Informants at the national level shared enthusiasm that these democratic processes can and will be learned successfully by the newly elected representatives. Moreover, this study found that local communities are willing to participate and improve LAPA. Over time, we may see the small gains growing. But even if these changes have the possibility for more democratic engagement in the future, we still need to reframe our thinking. CBA and thus LAPA will not be enough successfully address climate change. An integration into a broader set of agendas and priorities is needed. Hence, the process of mainstreaming needs to be clarified. In line with elaborated literature in section 3 this study appeals to refocus on CBA's initial flexible approach: It needs to be flexible enough to handle outcomes not fitting the climate resilient angle in the first place, thus, LAPA needs to acknowledge the wish for basic livelihood improvements. Enhanced LAPA project like HBPs ISWMPs or NCCSPs CRDP need

to mainstream contextual socio-economic vulnerability into their broader adaptive projects to be able to guarantee a level of sustainability.

However, projects purely focusing on decreasing outcome vulnerability might be able to decrease a community's climate vulnerability overall. Adaptive projects focusing on climate-specific challenges are consequently only a small part of the development people need.

7.2 Limitations of the study

The thesis at hand is the result of the empirical data collected during my field study in rural Nepal. Time, access, and a limited budget were the most significant limitations of this study. Consequently, the findings only represent the tip of the multi-layered and complicated reality of climate change adaptation processes in general and LAPA in Nepal in particular. The short timeline led to the small-scale character of this field study. Moreover, due to the limits mentioned, only easily accessible sites were considered for this study, although the more established LAPA projects are to be found in the hilly but remote areas of Nepal. Consequently, the findings presented here might differ from LAPA project sites in areas harder to reach out to. However, the LAPA framework is to be seen solely as a guideline only and consists of a variety of participatory tools to assess and incorporate communities' needs and priorities to successfully adapt to climate change. The LAPA implementation process is thus highly contextualized and differs from community to community and geographical circumstances.

Apart from limitations caused by external factors, I understand that the methodological approach shapes the results as well. A qualitative approach has inherent limitations due to the ambiguous nature of oral information in general and prone to subjective interpretations by the researcher. Generalization is thus the main enemy of qualitative research. On the other hand, Polit and Beck (2010) legitimately point out that generalization is more of an ideological nature and cannot be achieved by both qualitative and quantitative research. The very contextual character of research itself is hindering that. Furthermore, the political shift and ongoing decentralization processes affected the outcome of the study. It turned out that many policy documents crucial for LAPA implementation were being revised parallel to my field study, resulting in uncertainties not only for me as a researcher but also at the local administrative units and communities. Finally, it was hard to get in touch with representatives from the Government and Ministries even with the network from SIAS. Because of that, the study at hand only comprises one government perspective from the federal level.

7.3 Suggestions for further research

The results elaborated in this study revealed further exciting issues concerning the application of CBA within climate change adaptation. The data collection process more topic-related aspects than I can address in this study came to light.

I suggest the following issues for further research:

- Further research on the issue of ownership of LAPA projects regarding the reviewed LAPA manual.
- A comprehensive study of the practical relevance of participation within LAPA implementation in Nepal
- To explore the motives behind the shift of external donors from LAPA to broader scales within CBA, i.e. sub-watershed- or river-basin approaches.
- To explore the long-term effects of the federal shift on climate change adaptation in Nepal.
- Further research on how participatory climate change adaptation can be and what factors need to be considered

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9 Appendix

9.1 Consent Form

Research project title: *“What the Monkey at before and what he is eating now” – A small-scale case study on local climate change adaptation in rural Nepal.*

Research investigator: Gerrit Jan Hofert

The interview will take approximately between 30 minutes and 1 hour. It is not anticipated that your participation is associated with any kind of risks. However, you have the right to stop the interview or withdraw your participation at any time. Furthermore, I understand that if I decide to withdraw, it needs to be done before the 10th of April 2019. The withdraw includes any information I have provided. Based on the understanding of the above-named project and its description, I agree to participate as a subject in the project and therefore provide consent to (please choose all applicable options of the following)

- The interview will be audio-recorded, and a transcript will be produced
- The transcript will be used and analyzed by Gerrit Jan Hofert as the research investigator
- The access to that transcript will be limited to Gerrit Jan Hofert and academic colleagues with whom he might collaborate as part of the research process
- Any content from the interview will be anonymized. No information about your identity will be revealed
- the actual recording will be stored by Gerrit Jan Hofert
- I agree to be quoted directly in an anonymized way
- I agree that the researcher's work might be published with the information provided by me

Printed Name

Participants Signature

Date

Researchers Signature

Date

9.2 Questionnaire's

Questions for informants at the central level (government and non-government agencies)

LAPA in general

1. Can you briefly explain the context of LAPA development in Nepal and its initial intention?
 - a. How important is it that LAPA fulfills that role?
2. What are the main achievements of LAPA since its start?
3. What role do non-governmental organizations and civil society movements in the process of LAPA developing and implementation have?
 - a. What role do governmental organizations have?
 - b. How do these actors cooperate?
4. How is it ensured that every stakeholder is involved in LAPA? How is a potential stakeholder identified?
5. How is the funding mechanism organized?
6. Any budget allocation from the central government for LAPA?
 - a. If yes, how is it channeled down to the community?
 - b. If no, why not?
7. How was the LAPA framework developed?
 - a. Who was involved?
8. Who initiates and leads the LAPA planning and implementation process in Nepal?
9. How is your organization/ministry/agency involved in the LAPA process?
 - a. What are your responsibilities?
10. Who is involved at the local level to develop and implement LAPA?
 - a. Has your involved changed since the federal reform?
 - i. If yes, how?
 - ii. If not, why not?
11. What are the main lessons learned of the already 8-9 years of practical LAPA-implementation?
 - a. What should be focused on in the revision process?
12. How has the LAPA framework been revised, and who is involved in that process?
13. Where do you see the main problems in the planning and implementation process of LAPA?
 - a. How could that be overcome?
14. Who is responsible for LAPA development and implementation in the new governance structure?
15. How do you see the future of LAPA in the new governance structure?
16. What new responsibilities do local governments now have, what can they decide upon?

17. Do involved community members have access to relevant LAPA documents?
18. What is the difference between LAPA and other development activities?
19. Any additional thoughts?

Questions for informants at the municipal-level

1. Can you tell me a little bit more about your position and responsibilities?
2. How long have you been working in that position?
3. What do you know about LAPA? What about LAPA processes in this area?
4. What kind of LAPA projects are being implemented in the district?
 - a. What kind of activities has been proposed by the community?
 - b. Do they go in line with existing projects?
5. Have you been involved in planning and implementing LAPA?
6. Do you think LAPA is important for this area? If yes, why, if you, why
7. Who helps to initiate, planning and developing LAPA in this district?
 - a. NGOs?
 - b. GoN?
8. How do you cooperate with these actors?
 - a. How do they cooperate?
9. What is the role of the District Coordination Committee (DCC) in the LAPA planning and development process?
10. What is the role of the chairperson on the district level in the LAPA planning and development process?
11. What is the role of the Ward in the LAPA planning and development process?
12. Do you know who funds the LAPA projects at this district?
13. Do you think the LAPA manual addresses people's needs and priorities adequately?
 - a. If yes, why?
 - b. If no, why?
14. Based on you experience, what would you improve in the planning and implementing process of LAPA?
15. How do the community's people react to LAPA?
16. What challenges do you face in planning and implementing LAPA?
 - a. How do you think they could be overcome?
17. If you could choose, would you work with LAPA again?
 - a. If yes, why?
 - b. If no, why?
18. Where do you get your information about Climate Change and its effects from? Do you have access to scientific knowledge?

Questions for informants at the community-level
Warm-up questions

1. For how long you have lived here?
2. What do you do for a living? How do you fulfil your needs?
3. Are there any regulations on how you do agriculture/forestry?
4. Where do you get you water from?
5. Have you been affected by unusual weather events recently?
 - a. What kind of events?
6. What are the biggest threats you are facing?
7. Do you think unusual weather changes will appear more frequent?
8. How do you think will that affect you?
9. Have there been any development projects working in this area?
 - a. Can you name any?
 - b. What did they do?
 - c. Where you part of these projects?
 - d. Did it support you?
 - i. If yes, how
 - ii. If no, why?
10. Do you think these development projects are generally helping people?
11. Do you receive any services from the municipality?
 - a. Do you have a contact person?
 - b. Did he visit the village?
 - c. How often can you talk to him?
12. What do you know about climate change? What about climate change adaptation?
13. Where you involved in the LAPA planning process?
 - a. If yes, what do you think about that process, what was your role?
 - b. If no, why not?
14. Do you know who facilitated the LAPA process? (Name person or organization)
 - a. And who prepared the plan?
15. Where there any government officials present during the process?
 - a. If yes, from with departments – How did they support the process?
16. Where any NGOs present during the process?
 - a. If yes, how did they contribute?
17. What happened since the planning process?
18. What are your thoughts on LAPA? Do you think it is beneficial for the village?
 - a. If yes, how?
 - b. If no, why?
19. Where you able to address your opinions, needs, and priorities during the process?

- a. Are they reflected in the project?
20. How were adaptation activities identified during the process?
21. Do you know how the LAPA project is funded?
22. What would you change in the LAPA process if you had the chance?

Any additional thoughts?

9.3 Table 1: Overview of the coded list of participants and type of interviews conducted

Identity in text	Role/Position	Location	Type of interview	Date	Number of people interviewed
R1K	CDKN consultant	K	Individual + Semi-structured	27/02/2019	1
R2K	MoFE Undersecretary	K	Individual + Semi-structured	03/03/2019	1
R3K	NCCSP staff	K	Group + Semi-structured	05/03/2019	1
R4K	NCCSP staff	K	Group + Semi-structured	06/06/2019	2
R5K	ASHA Climate Expert	K	Individual + Semi-structured	07/03/2019	1
R6S1	FECOFUN chairperson	S1	Individual + Semi-structured	09/03/2019	1
R7S1	FUG	S1	Group + Semi-structured	10/03/2019	6
R8S1	Social Mobilizer	S1	Individual + Semi-structured	10/03/2019	1
R9S1	FUG	S1	Group + Semi-structured	10/03/2019	8
R10S1	Ward-Secretary/ former Ward Chairperson	S1	Individual + Semi-structured	11/03/2019	1
R11K	HBP Project Coordinator	K	Individual + Semi-structured	21/03/2019	1
R12S2	NCCSP Palika-Coordinator	S2	Individual + Semi-structured	23/03/2019	1
R13S2	DDC planning officer/ DCC chairperson	S2	Individual + Semi-structured	24/03/2019	1
R14S2	HBP District Coordinator	S2	Individual + Semi-structured	26/02/2019	1
R15S2	FUG female	S2	Group + Semi-structured	27/02/2019	8
R16S2	FUG male	S2	Group + Semi-structured	27/02/2019	6
R17S2	Rural Municipality Chairperson	S2	Individual + Semi-structured	26/03/2019	1

R18S2	FUG male	S2	Group + Semi-structured	26/03/2019	6
R19S2	FUG fe- male/FUG-Secre- tary	S2	Individual + Semi-structured	26/03/2019	1
R20S2	Ward-Chairperson	S2	Individual + Semi-structured	27/03/2019	1
R21S3	FUG male	S3	Group + Semi-structured	28/03/2019	4
R22S3	FUG female	S3	Group + Semi-structured	28/03/2019	4
R23S3	CARE Nepal Co- ordinator	S3	Individual + Semi-structured	28/03/2019	1
R24S3	PRC staff	K	Individual + Semi-structured	05/04/2019	1
Overall Partici- pants					60
Total No. of Inter- views					24
Legend	K=Kathmandu; S1= Site 1 S2= Site 2 S3= Site 3	Communities Interviewed: Ramechhap: Shree Sheradevi Com- munity Forest User Group, Manthali Municipality, Ward no. 13, Milti, Ramechhap and the Dugursingh Hoop Community Forest User Group – Ramechhap Municipality, Ward no. 6, Chysaku Ramechhap; Dang: Simaltara Irrigation Users Community, Gadhwa, Ward no. 5, Dang, Shree Kulpani Forest User Group, Ward no. 1, Bethara, Dang; Chitwan: Rani Khola Community Forest User Group, Ward no. 4, Ischya Manakamana Rural Mu- nicipality			